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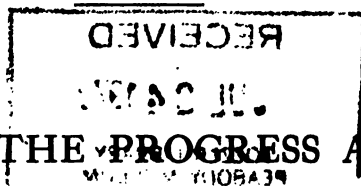
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SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM



REPORT ON THE PROGRESS AND CON-
DITION OF THE UNITED STATES
NATIONAL MUSEUM FOR THE
YEAR ENDING JUNE 30, 1918



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UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF THE SMITHSONIAN INSTITUTION,
Washington, D. C., October 31, 1918.

SIR: Owing to the death, on July 16, 1918, of Mr. Richard Rathbun, assistant secretary of the Smithsonian Institution in charge of the National Museum, the duty devolves on me of submitting herewith a report upon the present condition of the United States National Museum and upon the work accomplished in its various departments during the fiscal year ending June 30, 1918.

Very respectfully,

W. DEC. RAVENEL,
Administrative Assistant,
United States National Museum.

DR. CHARLES D. WALCOTT,
Secretary, Smithsonian Institution.

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REPORT ON THE PROGRESS AND CONDITION OF THE UNITED STATES NATIONAL MUSEUM FOR THE YEAR ENDING JUNE 30, 1918.

By W. DEC. RAVENEL,
Administrative Assistant.

INCEPTION AND HISTORY.

The Congress of the United States in the act of August 10, 1846, founding the Smithsonian Institution recognized that an opportunity was afforded, in carrying out the large-minded design of Smithson, to provide for the custody of the museum of the Nation. To this new establishment was therefore intrusted the care of the national collections, a course that time has fully justified.

In the beginning the cost of maintaining the museum side of the Institution's work was wholly paid from the Smithsonian income; then for a time the Government bore a share, and during the past 40 years Congress has voted the entire funds for the expenses of the Museum, thus furthering one of the primary means "for the increase and diffusion of knowledge among men" without encroaching upon the resources of the Institution.

The museum idea was inherent in the establishment of the Smithsonian Institution, which in its turn was based upon a 10 years' discussion in Congress and the advice of the most distinguished scientific men, educators, and intellectual leaders of the Nation of 70 years ago. It is interesting to note how broad and comprehensive were the views which actuated our lawmakers in determining the scope of the Museum, a fact especially remarkable when it is recalled that at that date no museum of considerable size existed in the United States, and the museums of England and of the Continent of Europe were still to a large extent without a developed plan, although containing many rich collections.

The Congress which passed the act of foundation enumerated as within the scope of the Museum "all objects of art and of foreign and curious research and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States," thus stamping the Museum at the very outset as one of the widest

range and at the same time as the Museum of the United States. It was also appreciated that additions would be necessary to the collections then in existence, and provision was made for their increase by the exchange of duplicate specimens, by donations, and by other means.

If the wisdom of Congress in so fully providing for a museum in the Smithsonian law challenges attention, the interpretation put upon this law by the Board of Regents within less than six months from the passage of the act can not but command admiration. In the early part of September, 1846, the Regents took steps toward formulating a plan of operations. The report of the committee appointed for this purpose, submitted in December and January following, shows a thorough consideration of the subject in both the spirit and letter of the law. It would seem not out of place to cite here the first pronouncement of the board with reference to the character of the Museum:

"In obedience to the requirements of the charter,¹ which leaves little discretion in regard to the extent of accommodations to be provided, your committee recommend that there be included in the building a museum of liberal size, fitted up to receive the collections destined for the Institution. * * *

"As important as the cabinets of natural history by the charter required to be included in the Museum, your committee regard its ethnological portion, including all collections that may supply items in the physical history of our species, and illustrate the manners, customs, religions, and progressive advance of the various nations of the world; as, for example, collections of skulls, skeletons, portraits, dresses, implements, weapons, idols, antiquities, of the various races of man. * * * In this connexion your committee recommend the passage of resolutions asking the cooperation of certain public functionaries and of the public generally in furtherance of the above objects.

"Your committee are further of opinion that in the Museum, if the funds of the Institution permit, might judiciously be included various series of models illustrating the progress of some of the most useful inventions; such, for example, as the steam engine from its earliest and rudest form to its present most improved state; but this they propose only so far as it may not encroach on ground already covered by the numerous models in the Patent Office.

"Specimens of staple materials, of their gradual manufacture, and of the finished product of manufactures and the arts may also, your committee think, be usefully introduced. This would supply oppor-

¹ Since the Institution was not chartered in a legal sense, but established by Congress, the use of the word "charter" in this connection was not correct.

tunity to examine samples of the best manufactured articles our country affords, and to judge her gradual progress in arts and manufactures. * * *

"The gallery of art, your committee think, should include both paintings and sculpture, as well as engravings and architectural designs; and it is desirable to have in connexion with it one or more studios in which young artists might copy without interruption, being admitted under such regulations as the board may prescribe. Your committee also think that, as the collection of paintings and sculpture will probably accumulate slowly, the room destined for a gallery of art might properly and usefully meanwhile be occupied during the sessions of Congress as an exhibition room for the works of artists generally; and the extent and general usefulness of such an exhibit might probably be increased if an arrangement could be effected with the Academy of Design, the Arts Union, the Artists' Fund Society, and other associations of similar character, so as to concentrate at the metropolis for a certain portion of each winter the best results of talent in the fine arts."

The important points in the foregoing report are (1) that it was the opinion of the Regents that a museum was requisite under the law, Congress having left no discretion in the matter; (2) that ethnology and anthropology, though not specially named, were yet as important subjects as natural history; (3) that the history of the progress of useful inventions and the collection of the raw materials and products of the manufactures and arts should also be provided for; (4) for the gallery of art the committee had models in existence, and they proposed, pending the gathering of art collections, which would of necessity be slow, to provide for loan exhibitions by co-operating with art academies and societies.

In the resolutions which were adopted upon the presentation of the report, a museum was mentioned as "one of the principal modes of executing the act and trust."¹ The work was to go forward as the funds permitted, and, as is well known, the maintenance of the Museum and the library was long ago assumed by Congress, the Institution taking upon itself only so much of the necessary responsibility for the administration of these and subsequent additions to its activities as would weld them into a compact whole, which together form a unique and notable agency for the increase and diffusion of

¹ *Resolved*, That it is the intention of the act of Congress establishing the Institution, and in accordance with the design of Mr. Smithson, as expressed in his will, that one of the principal modes of executing the act and the trust is the accumulation of collections of specimens and objects of natural history and of elegant art, and the gradual formation of a library of valuable works pertaining to all departments of human knowledge, to the end that a copious storehouse of materials of science, literature, and art may be provided which shall excite and diffuse the love of learning among men, and shall assist the original investigations and efforts of those who may devote themselves to the pursuit of any branch of knowledge.

knowledge, for the direction of research, for cooperation with departments of the Government and with universities and scientific societies in America, and likewise afford a definite correspondent to all scientific institutions and men abroad who seek interchange of views or knowledge with men of science in the United States.

Since that early day the only material change in the scope of the Government Museum has been the addition of a department of American history, intended to illustrate by an appropriate assemblage of objects the lives of distinguished personages, important events, and the domestic life of the country from the colonial period to the present time.

The development of the Museum has been greatest in those subjects which the conditions of the past three-quarters of a century have made most fruitful—the natural history, geology, ethnology, and archeology of the United States, supplemented by many collections from other countries. The opportunities for acquisition in these directions have been mainly brought about through the activities of the scientific and economic surveys of the Government, many of which are the direct outgrowths of earlier explorations, stimulated or directed by the Smithsonian Institution. The Centennial Exhibition of 1876 afforded the first opportunity for establishing a department of the industrial arts, of which the fullest advantage has been taken, but the department or gallery of the fine arts made little progress, though not from lack of desire or appreciation, until some 10 years ago, when circumstances led to its definite recognition.

While it is the primary duty of a museum to preserve the objects confided to its care, as it is that of a library to preserve its books and manuscripts, yet the importance of public collections rests not upon the mere basis of custodianship nor upon the number of specimens assembled and their money value, but upon the use to which they are put. Judged by this standard, the National Museum may claim to have reached a high state of efficiency. From an educational point of view it is of great value to those persons who are so fortunate as to reside in Washington or who are able to visit the Nation's Capital. In its well-designed cases, in which every detail of structure, appointment, and color is considered, a selection of representative objects is placed on view to the public, all being carefully labeled individually and in groups. The child as well as the adult has been provided for and the kindergarten pupil and the high-school scholar can be seen here supplementing their class-room games or studies. Under authority from Congress the small colleges and higher grades of schools and academies throughout the land, especially in places where museums do not exist, are also being aided in their educational work by sets of duplicate specimens, selected and labeled to meet the needs of both teachers and pupils.

Nor has the elementary or even the higher education been by any means the sole gainer from the work of the Museum. To advance knowledge, to gradually extend the boundaries of learning, has been one of the great tasks to which the Museum, in consonance with the spirit of the institution, has set itself from the first. Its staff, though chiefly engaged in the duties incident to the care, classification, and labeling of collections in order that they may be accessible to the public and to students, has yet in these operations made important discoveries in every department of the Museum's activities, which have in turn been communicated to other scholars through its numerous publications. But the collections have not been held for the study of the staff nor for the scientific advancement of those belonging to the establishment. Most freely have they been put at the disposal of investigators connected with other institutions, without whose help the record of scientific progress based upon the material in the Museum would have been greatly curtailed. When it is possible to so arrange, the investigator comes to Washington; otherwise such collections as he needs are sent to him, whether he resides in this country or abroad. In this manner practically every prominent specialist throughout the world interested in the subjects here well represented has had some use of the collections and thereby the National Museum has come to be recognized as a conspicuous factor in the advancement of knowledge wherever civilization has a foothold.

OPERATIONS OF THE YEAR.

WAR ACTIVITIES.

During the trying conditions that have prevailed in the United States since it entered the war, the National Museum has demonstrated its value as a national asset in many ways. Members of its staff of experts, its great collections, its laboratories, and all the information in its possession, have been placed unreservedly at the service of the executive departments and other Government agencies, and have been freely used by a number of them. Some of its exhibition halls have been closed to visitors and turned into office quarters for one of the important war bureaus of the Government. Facilities for the comfort and recreation of officers and men stationed in the vicinity and drilling on the Mall have been provided in the buildings, and the reading rooms of the libraries have been equipped with tables and writing materials for all men in uniform.

Its department of geology has been frequently called upon to furnish the Bureau of Standards, Naval Experiment Station, Department of Agriculture, Geological Survey, the Carnegie Institution, and various arsenals, materials for experimental work. A single call from the Bureau of Standards embraced 27 varieties of minerals, many of which were rare. To meet all of these demands it has been necessary at times to make trips into the field to secure additional supplies. At the request of the National Research Council the head curator of this department has taken over the entire work of securing optical quartz for the needs of the United States and of Great Britain, involving a large amount of correspondence and travel to different points.

The division of mineral technology has concentrated its activities for the year upon the interrelationships, and consequent interdependence, existing in the industries sustained by mineral resources. In addition to instructive exhibits, the curator and his assistants, in the solution of the problems connected with the fertilizer, sulphur, fuel, and power situations, have prepared for publication pamphlets which have been not only in great demand by publishers of technical papers, engineers, and business enterprises interested, but of particular value to the Government bureaus handling these products. They have furnished also a large amount of data to the Shipping Board, the fuel and fertilizer administrations, and the War and Navy Departments, including suggestions for insuring a sustained source of oil, and for the systematic assemblage of industrial data as a basis for reconstructive work in man power. As a member of the joint information

board of minerals and derivatives of the War Industries Board, the curator did work of unusual value.

The division of physical anthropology has furnished a large amount of information on racial questions, particularly relating to the Balkans, to the National Research Council, and the Army and Navy Intelligence Bureaus.

In the conservation of food, the curator of the division of textiles, having charge of food and animal products, cooperated with the Food Administration in planning graphic exhibits for use throughout the country on the subject of conservation. He was also appointed exhibits director in the District of Columbia and served as chairman of the campaign committee to carry out food conservation in the District. Incidentally he has prepared and placed on exhibition an instructive exhibit of foods in the National Museum. Information was also furnished by him to the United States Shipping Board on raw commodities and assistance in working out a system for classifying commercial data on vegetable fats and oils.

The Museum photographer has rendered valuable assistance in connection with the organization of laboratories in the War and Navy Departments, and also in confidential matters.

Other lines of work in which the Museum was active included geological and biological problems arising in gas warfare, peat investigations, questions in connection with the construction of concrete ships and other similar problems, the translating of communications, etc.

Since the war commenced 24 employees of the Museum have been granted furloughs to enter the military service of the country.

Bureau of War Risk Insurance.—On October 13 the President of the United States, after calling the attention of Secretary Walcott to the recent law putting into operation the Bureau of War Risk Insurance, providing for insurance, compensation, and indemnity for enlisted men of the Army and Navy, stated that there was no office space available in the Treasury Department, nor could adequate accommodations be found elsewhere for the organization of this most important administrative office, and suggested that the Establishment and Board of Regents of the Smithsonian Institution would probably be glad to cooperate with the Treasury and place at the service of this bureau such space in the arts and industries building of the Museum as they would require, by concentrating exhibits in a portion of the building.

Convinced that the work must be started immediately, in order that the men might take advantage of the great privileges that the Government offered, and, as it was decided that the arts and industries building could not be satisfactorily used for office purposes, the secretary, by authority of the executive committee, placed at the disposal of the Treasury Department the foyer on the ground floor

of the natural history building with the adjoining rooms, and, shortly after, the west north and the west ranges, by removing the collections of the division of mammals and of the Biological Survey to the same ranges on the second floor. The space thus provided amounted to approximately 25,000 square feet.

On November 23, the President again wrote to the secretary asking that the Board of Regents place at the disposal of this bureau from 60,000 to 80,000 additional feet in the exhibition halls. This matter was referred to a special committee of the Regents who, from time to time, authorized additional space in the exhibition halls, which was provided by concentrating the cases in parts of each hall and protecting them by means of partitions, thereby leaving large areas available for this purpose.

As the force increased additional space was granted, so that at the close of the fiscal year the bureau occupied 69,286 square feet in the foyer, auditorium, and ranges on the ground floor; the rotunda, and portions of the exhibition halls on the first floor extending from the center of the north hall around east through the southern section of the west hall, thereby providing accommodations for 3,059 employees.

The occupancy of this space necessarily involved many changes and inconveniences to the public as well as to the Museum, including the closing of the auditorium with the cancellation of all meetings and congresses. The importance of the work with which the bureau is charged, however, justified any and all sacrifices, and the heartiest cooperation and assistance were cheerfully rendered by the staff of the Museum.

On July 16, 1918, at the further request of the President, the Board of Regents closed the natural history building to the public, thereby making available for the Bureau of War Risk Insurance on the ground and two exhibition floors a total of 138,600 square feet.

APPROPRIATIONS.

The maintenance and operations of the National Museum for the fiscal year from July 1, 1917, to June 30, 1918, were provided for by the following items of appropriation in the sundry civil bill, approved June 12, 1917, and urgent deficiency act, approved March 28, 1918:

Preservation of collections-----	\$300, 000
Furniture and fixtures-----	25, 000
Heating and lighting-----	51, 674
Building repairs-----	10, 000
Purchase of books-----	2, 000
Postage-----	500
Printing and binding-----	37, 500
Total-----	426, 674

BUILDINGS AND EQUIPMENT.

The more important items of repair in connection with the natural history building were the refastening of 5,800 lineal feet of copper roof on the east hall, east range, east north range, west north range, and west ranges, the repointing of the coping stones on roof in east court and along the outside walls, and the painting of the exterior woodwork of all the windows and window sills on the ground and third floors, including those in the two courts; the laying of cork flooring in the corridors in the east range on third floor and east north and east ranges on ground floor.

In the arts and industries building the chief items consisted in the painting of walls and ceilings in several halls and ranges, the replacing of brick floors in blacksmith shop with concrete, making certain necessary alterations and improvements in the photographic gallery, and the painting with flexible compound and metallic paint the roofs over the four courts. The skylights on the roofs were also overhauled and repaired and a number of old gutter pipes replaced with new copper.

In the Smithsonian building the old brick and stone floor in the two main and three small corridors in basement were replaced with new concrete, and the walls and ceilings of the six rooms on the third floor, occupied by the National Herbarium, were pointed up and replastered.

The power plant in the natural history building was closed down from July 1 to September 5, during which time electric current for light and power was purchased from the Potomac Electric Co. at 2½ cents per kilowatt hour. The chief object in closing the plant was to permit the employees connected therewith to take the greater part of their annual leave and to make the necessary repairs and changes. By this system it is possible to operate the plant with a smaller force than would be necessary if it were run throughout the entire year. Great difficulty was experienced during the year in securing the required amount of coal to keep the plant in operation, and at times there was not sufficient coal in the vault to operate more than a few hours, so that the possibility of closing down the plant was imminent at times. Owing to the great increase in the cost of coal and poor quality of same, although the production of electric current was greater than ever before, the cost was much higher than in the past two or three years. In 1917 the cost per hour was 2.078 cents; in 1916, 2.221 cents; and for the past year, 2.795 cents. The total amount of coal used was 3,278 tons, 448 tons of which were paid for by the Bureau of War Risk Insurance.

The ice plant was operated 4,240 hours, producing a total of 321 tons, at a cost of \$3.73 a ton. The total expense of operating the

machine was \$1,197.31, of which \$304.91 was expended for labor in making repairs and material purchased, such as calcium chloride, oils, ammonia, etc., and \$982 was charged for the current used in manufacturing ice. As the demand for ice has increased the plant has become too small, and it is probable that a new plant will have to be purchased soon.

The installation of the steam and return mains for furnishing heat to the building for the Freer Collections made material changes necessary in the pipes leading from the power plant to the entrance of the tunnel connecting that building with the Smithsonian building. A new 6-inch steam main was installed in the tunnel connecting the power plant and Smithsonian building, and the old 4-inch steam main was used for returning the condensation from the buildings on the south side of the park to the power plant in the natural history building. It was expected that this work would have been completed during the summer, but owing to lack of labor and other causes the pipes were not covered until December. Steam was turned on the buildings on October 2 and turned off May 18.

Few other changes were made in the heating system, and the repairs were less than in any preceding year, due to scarcity of material and the fact that the temperature in the exhibition halls was kept lower than ever before. Great care had to be taken not to leave the steam on in the buildings any longer than was absolutely necessary to prevent freezing and to provide for the comfort of the occupants.

The occupancy of certain parts of the natural history building, not heretofore used as offices, by the Bureau of War Risk Insurance, made necessary a considerable amount of electrical work, which was done by the employees of the Museum under the direction of the engineer, as it was impossible to secure skilled men, and also in order to be assured that the work would be satisfactorily done from the standpoint of safety. The 115 special fixtures purchased during the previous year for installation under the galleries in the exhibition halls of the arts and industries building were installed, besides 22 additional ones purchased from this year's appropriation.

It became evident early in the autumn, owing to the increased cost of coal, that the appropriation for heating and lighting would not be sufficient, and an additional estimate of \$5,674 was submitted to Congress, which was granted. Owing to still further increases in the price of coal, later in the winter this sum also proved inadequate and it became necessary to request the Bureau of War Risk Insurance to furnish 448 additional tons.

Furniture was acquired during the year as follows: Twenty-five exhibition cases and 153 pieces of storage and laboratory furniture, and 19 pieces of office and other furniture were purchased or con-

structed in the Museum shops, besides 650 unit drawers, 400 insect drawers, and 379 special drawers. The inventory of furniture at the close of the year showed 3,552 exhibition cases, 7,441 storage cases and pieces of laboratory furniture, 3,547 pieces of office and other furniture, 45,185 wooden unit drawers, 4,712 metal unit drawers, 10,342 insect drawers, 1,067 special drawers with compo bottoms, and 7,991 other miscellaneous drawers, wing frames, etc.

COLLECTIONS.

The total number of accessions received during the year was 1,288, with an aggregate of approximately 142,902 specimens and objects, classified as follows: Subjects comprised in the department of anthropology, 11,058; zoology, 61,537; botany, 38,123; geology and mineralogy, 11,370; paleontology, 17,896; textiles, woods, medicines, and other miscellaneous animal and vegetable products, 1,532; mineral technology, 308; and National Gallery of Art, 1,078. In addition, 168 paintings and other art objects were accepted as loans for exhibition in the Gallery of Art.

Material to the extent of 781 lots, of which 375 consisted of geological and 318 of biological specimens, was received for special examination and report.

DEPARTMENT OF ANTHROPOLOGY.

Ethnology.—A number of additions to the ethnological collection deserve mention. Especially noteworthy is the gift by Dr. W. L. Abbott of over 400 specimens collected by Mr. H. C. Raven in Celebes, East Indies, illustrating agriculture and household economy, including mats, baskets, water tubes, knives, reapers, etc.; a full exposition of the bark-cloth industry, beaters of corrugated stone and wood, and examples of the product; weapons, such as spears, blowguns, swords, shields, and knives; clothing of men and women for ordinary and ceremonial occasions, including jackets, skirts of bark cloth, turbans, and ornaments; appliances used by betel chewers; musical instruments; and fetishes.

The Dyaks of Borneo were represented in a valuable collection donated by Mr. Alfred M. Erskine, with examples of carrying baskets, mats, paddles, swords, spear, shield, war headdress, costumes of men and women, a bamboo fire producer, and musical instruments, numbering in all 82 specimens, and Miss Josephine A. Rohrer presented a collection of 40 specimens of African, Chinese, Filipino, and Porto Rican ethnologica.

Among additions pertaining to American Indians were seven baskets from the Koasati Indians of Louisiana and an interesting series illustrating the pottery making of the Catawba Indians of

South Carolina, collected by Dr. John R. Swanton and transferred from the Bureau of American Ethnology; Sioux and Chippewa specimens from Miss Frances Densmore; a painted buffalo robe and two beaded strips from the Sioux, donated by Mrs. Hamilton Rowan; and a beaded pipe pouch presented by Eagle Boy, a Sioux Indian.

From the West Indies were received as gifts, all through Dr. William L. Abbott, a set of three Voodoo drums captured in Haiti by the donor, Capt. Charles G. Sinclair of the Haitian gendarmerie; another drum from Lieut. Peter W. Hartman of the same force; and a pair of Voodoo charms from Haiti, from Mons. P. Guillermot.

In the laboratory of ethnology a beginning was made in replacing the steel storage racks by large air-tight metal-covered storage cases, such as are used in the department of biology. Besides facilitating the preservation of specimens, these cases were used for fumigating perishable objects received during the year. The collection as a whole is in excellent condition.

American archeology.—The following were the more noteworthy additions to the division of American archeology: A collection of 83 specimens, mostly stone implements, obtained in exchange from Mr. J. G. Braecklein, and, from the same source as a gift, 21 specimens of like character; relics mainly from ancient cliff and cavern dwellings collected for the Museum by Dr. Walter Hough in New Mexico; by transfer from the Bureau of American Ethnology, 25 prehistoric implements gathered in Mexico by Mr. J. M. Muir; and prehistoric pottery fragments from the south shore of Lake Ponchartrain and a two-grooved hatchet from Caroline County, Virginia, the gift of Mr. D. I. Bushnell, jr. A discoidal stone, usually known as chunky stone, made of translucent quartz, symmetrical in form and highly polished, two steatite tobacco pipes, and a polished celt, all from the collection of the late J. M. Spainhour, were presented by his son, Mr. Charles A. Spainhour. From the Museum of the American Indian, Heye Foundation, came by exchange 80 ancient Indian relics from the Virgin Islands, comprising stone implements, pottery, etc. Collections made in the field by Mr. Neil M. Judd, assistant curator of the division, contained over 1,200 archeological specimens from Utah, and in addition an interesting digging stick from a prehistoric cliff house near Kanab, Utah, the gift of Mr. B. A. Riggs. Two interesting effigy earthen vessels from the Casas Grandes, Mexico, were donated by Miss Edith Symington, and specimens of antique pottery with glaze-color designs, from Apache County, Arizona, by Mr. Victor J. Evans. Other Mexican material consisted of objects in stone, shell, and copper from the State of Oaxaca, lent by Mr. Walter M. Brodie. Mention should also be made of additional gifts from Mr. Paul von Hohen, Mrs. Stanford

E. Moses, Dr. Thomas O. Menees, Mrs. E. M. Chapman, Rev. Douglas Putnam Birnie, Mr. Ambrose McGarry, and Mrs. F. A. Clark.

Much advance was made in the marking, repair, and general care of the reserve or study collections of the division, and too much can not be said of the faithfulness and effectiveness with which Mr. E. P. Upham, aid, applied himself to the work of the division.

Old World archeology.—The Royal Ontario Museum of Archeology, Toronto, Canada, by an exchange of specimens, afforded the most important addition to the collections of Old World archeology. The 195 specimens of this increment included 12 Babylonian inscribed cuneiform tablets, rare and interesting prehistoric stone implements from Egypt, France, and England, which form valuable and much desired additions to the collections from these countries, bronze and iron implements from Greece and Italy, besides Egyptian pottery, beads, coptic cloth, arrow heads, etc. From a collection received as a gift from Capt. Clarence Wiener, of the British Army, should be mentioned a rare and unique nine-pronged iron roasting spit found near the Colosseum in Rome, a fine marble head from a statuette of Hercules, and some Roman coins. Other gifts included a well-modeled Roman bronze lamp resembling in shape the mask of Silenus, from Mrs. Sanders Johnston; a rosary composed of Kentucky coffee beans strung on a Japanese silver chain, from Mr. Frederick J. Braendle; and a prayer book and selections from the Scriptures, arranged for Jews serving in the Army and Navy of the United States, published by the Jewish Publication Society of America, from Dr. Cyrus Adler.

Physical anthropology.—Although somewhat less extensive than those of the preceding year the additions to the division of physical anthropology were of considerable value. Most noteworthy was a collection of six Indian skulls, with two additional jaw bones, from caves on islands off southeastern Alaska, presented by Dr. Edwin Kirk. Next in value came an excellent plaster restoration of the Gibraltar skull, the gift of Prof. J. H. McGregor. A well-preserved skull, from Fernan Vaz, French Congo, was collected for the Museum by Mr. C. R. W. Aschemeier, of the Collins-Garner Congo Expedition, and an interesting cranium from the Malay Archipelago, collected by Mr. H. C. Raven, was donated by Dr. William L. Abbott. From the Office of Indian Affairs of the Department of the Interior came as a transfer of Government property an old Pueblo skull, found by Mr. F. F. Frisbee on the Navaho Reservation.

Other additions, received by gift, included two Indian skulls from Captiva Island, Florida, from Mr. Edward D. Tayloe, through Dr. Robert Bennett Bean; four Indian skulls with other bones from Illinois, from Mr. J. G. Braecklein; a skull and part of a skeleton of an Eskimo, from Mr. F. M. Sickler; the skeleton of a man, from

Mr. E. J. Collett, through Miss R. N. Brady; two supernumerary teeth, and one cast of an upper jaw, from Mr. W. Dwight Pierce; an important skull, with two other fragmentary crania, and one lower jaw, from Dr. William J. Morton; and a number of anatomical specimens from Dr. D. S. Lamb. Two casts of supposedly early man were added to the collection by purchase.

General work on the collections was carried forward vigorously, with the result that at the close of the year at least three-fourths of the material was in such good shape as to require practically no further attention.

Mechanical technology.—The accessions for the year were above the average in number and of more than general interest and scientific value. Preeminent was the original full-size Langley flying machine of 1903, and a duplicate set of cylinders for the engine, deposited in the custody of the Museum by the Smithsonian Institution. The original engine had been in the Museum for some years. Begun in 1898, by former Secretary S. P. Langley, for the War Department, in the interest of national defense, this was the first aeroplane capable of sustained free flight carrying a man. The machine was suspended from the ceiling in the east hall of the arts and industries building, and the engine was placed in a floor case below, where it can be inspected to better advantage.

A very interesting piece of apparatus, designed for magnetizing steel compass needles, etc., was lent by Mr. W. R. Protsman, on behalf of the owner, Dr. Frederick L. Koontz, United States Army.

Of the numerous and important contributions to the firearms series and firearms appliances the following deserve special mention: Two revolvers, a made-up gun, and 21 swords mostly of Santo Domingo manufacture, from the collection of 27 weapons donated by Lieut. Col. G. C. Thorpe, United States Marine Corps; modern firearms of English and American make, presented by Col. Henry May; two muskets, a United States artillery sword, and a United States cavalry sword, transferred from the Library of Congress; a British Enfield rifle, model of 1914, given by the Winchester Repeating Arms Co., through Mr. Henry Brewer; a Springfield musket of 1838, a Springfield breech-loading rifle, model of 1844, a United States Army musket, a Sharp's breech-loading rifle, model of 1859, a Colt's single-action revolver, three single-barrel pistols, and an iron bullet mold, from the collection contributed by Dr. Adam Heiner; an up-to-date high-power sporting rifle, from the Newton Arms Co. (Inc.); three guns of historical interest (a European air gun, a bell-mouth swivel gun, and an oriental rifle) said to have belonged to the late William Cost Johnson, Member of Congress from Maryland, 1833-43, presented by the heirs of Mr. Johnson through Mrs. E. Cuyler Wight; a knife pistol, contributed by Mr.

Jacob Steiner; a collection of primitive appliances used in the United States with sporting rifles from about 1840 to 1870, including implements for casting lead bullets of various sizes, given by Mrs. Lucy J. Maynard; a mold made of a block of steatite for casting lead bullets, the gift of Mr. George Marshall; and a crude iron box with a flintlock attachment designed for firing an explosive, presented by Mr. Charles F. Cadle. Lieut. Col. Thorpe also lent a revolving gun of the Lefauchaux type, and Gen. W. H. Carter, United States Army, lent a Flobert target pistol and three primitive guns made up of parts from various sources.

The few pieces added by purchase, to supply gaps in the collections, included two cavalry swords, a Japanese sword, an Arabian sword, a Beals revolver, an English shotgun, three flintlock pistols, a pepper-box pistol of American make, a signal pistol used by the United States Navy in 1884, and a blunderbuss said to have been used in defending mail coaches running between Baltimore and Washington in the olden time.

The investigations relating to the various subjects that come within the scope of this division have resulted not only in securing many interesting specimens for the Museum, but in the acquisition of valuable information regarding the existence and locality of other especially desirable objects yet to be acquired.

Musical instruments.—This section was enriched by further important additions to the generous gift of Mr. Hugo Worch, as follows: Five American pianos and one organ, one of the pianos being the work of Washington's pioneer maker, Johann Francis Kahl; seven English pianos, one harpsichord, and one spinet; two German hammerclaviers and three clavichords; two Austrian grand pianos and one hammerclavier; one Belgian spinet and two spinets of which the maker could not be identified. In addition an antique ivory flute was donated by Mrs. Thomas Kelly Boggs.

The custodian of the collections, Mr. E. H. Hawley, practically completed his descriptive catalogue of the musical instruments in the Museum, and was extending it to include musical instruments elsewhere.

Ceramics.—Much material of interest was added to this section, but reference can only be made to a portion. An extensive collection of articles in glass, porcelain, and silver, and especially rich in early Bohemian glass, was presented by Mrs. Charlotte Ellis Danforth in memory of her father and mother, J. Lewis Ellis and Olive M. Ellis. From Cavaliere Salvatore Arbib, through the American consul at Venice, B. Harvey Carroll, jr., was received some wonderful examples of Venetian glass. These consisted of 29 small glass cylinders, showing an astonishing series of miniature portraits, landscapes, etc., made in 1840–1850, by Jacopo Franchini, a famous

glass worker at Murano, Italy. By binding tiny straws of colored glass together into a rod 5 centimeters thick he formed at the end of the rod a miniature portrait, or other design. This combination rod was then fused at a glass blowpipe and drawn out until no larger than a knitting needle, and when cut into cross sections each section retained the perfect portrait or other design. No one has since been found to duplicate this work. By bequest of Mrs. Florence W. Bernadou came two valuable bronze vases presented by the Government of Japan to her husband, Ensign (afterwards commander) John B. Bernadou, United States Navy, in recognition of his services to Japanese citizens at an outbreak at Seoul, Korea, in December, 1884. A large series of period china and beautiful Dresden groups was lent to the Museum by Mrs. Allan McLane; and the collection of ivories, which is associated with ceramics, was increased by the loan, by Mrs. James Lansburgh, of 39 Japanese and Chinese ivory carvings collected by Mr. Lansburgh.

Graphic arts.—The gifts of particular importance, as filling in series or marking some definite advance in method of work, were specimens of four wood-cut blocks, and progressive proofs from these in colors as follows: (1) Yellowish brown; (2) dark brown; (3) 1 and 2 combined; (4) dark blue; (5) 1, 2, and 4 combined; (6) black; (7) 1, 2, 4, and 6 combined, together making the finished artist proof, from the artist, Mr. Gustav Baumann, cut by his own hand from his own design; nine specimens of intaglio color printing, from Miss Gabrielle De V. Clements; six illustrations of the process called "brulegravure," a new and unique method of printing pictures without the use of ink, a specially prepared copper plate being when heated placed upon a piece of paper producing a picture in varied shades of brown, from the inventor, Mr. John Williams Robbins; and an akrograph portrait of C. W. Wason, made by Lord Kelvin, who invented the process of making carbon relief photographs, from the Cleveland Engineering Society.

Further additions included a facsimile of the horn book owned by Miss De Neale, made and donated by Mr. R. P. Tolman; 19 wood engravings by Henry Wolf, the gift of Dr. Walter Hough; and eight crayon lithographs of landscapes with buildings, published by W. Hermes, and 38 chromo-lithographs, from the estate of Dr. E. A. Mearns.

The collections of the division were at the close of the year in better condition, including both exhibition and storage series, than heretofore. Efforts are being made to secure specimens of such graphic processes as are lacking in the collections and to complete series already in hand, giving special attention to rounding out sets in bringing them up to date. While this may not result in the secur-

ing of a large amount of material, it will add greatly to the technical value of the collections.

While but slight advance was reported in the section of photography, as the custodian, Mr. L. W. Beeson, and many would-be contributors were exceptionally busy with war work, valuable material will eventually result from these activities. The exhibition collection remains as reported last year, aside from deterioration of the prints due to the intense light on the gallery where displayed.

History.—Among the historical objects received this year were two very interesting relics of the present world war. The first is one of the two flags flying on the Zeppelin L-49 at the time of its capture at Bourbonne les Bains, France, October 17, 1917, by Lieut. Lefevre, of the French Army; who presented it to Maj. Harry R. Lay, adjutant of the Fifth Regiment of Marines, serving with the American Expeditionary Forces in France. It reached the Museum by transfer from the United States Marine Corps through Maj. Gen. George Barnett, commandant. The flag, 40 by 46 inches in size, is made of bright red cotton without decorations or insignia, and is accompanied by a small fragment of the gas bag and one of the outer envelope of the L-49. The second, received through President Wilson, is an American flag made at Islay House, Islay, Scotland, by Jessie McLellan, Mary Cunningham, Catherine McGregor, Mary Armour, and John McDougall, for use at the funerals of American soldiers lost with the transport *Tuscania*, February 5, 1918. Mr. Frank M. America, of the London staff of the Associated Press (the first American to arrive at Islay on this occasion), was asked by Mr. Hugh Morrison, the Scotch landowner, at whose residence, Islay House, the flag was made, to send it to President Wilson to be placed in some museum or institution of his selection. Mr. Morrison took a prominent part in the *Tuscania* relief work and donated the land for two cemeteries, in which American soldiers are now at rest. The flag, which is 37 by 67 inches in size and shows plainly by its design that it is handmade, was transmitted to the President by Mr. Melville E. Stone, general manager of the Associated Press, New York City. It was accompanied by three photographs, one of the group of five makers of the flag, one of Mr. Hugh Morrison, and one of Mr. Colin Campbell, of Port Ellen, who provided clothing and did everything possible to make comfortable the American survivors from the *Tuscania* who landed at Port Ellen, and arranged for the burial of 133 Americans whose bodies came ashore in his neighborhood.

The following relics pertaining to the officers of the opposing armies in the Civil War are of particular interest: The original letter written by Gen. Grant demanding the unconditional surrender of Fort Donelson, in answer to one written by Lieut. Gen. Simon B. Buckner, Confederate States Army, proposing that commissioners be

appointed to arrange terms of capitulation. It reads as follows: "Hd. Qs. Army in the field, Camp near Donelson, Feby. 16, 1862. No terms other than an unconditional and immediate surrender can be accepted. I propose to move immediately upon your works. I am Sir, very respectfully, your obt. servt. U. S. Grant." This was presented by Jean Webster (Mrs. Glenn Ford McKinney) through Mrs. Charles L. Webster. A large and notable collection of relics pertaining to Maj. Gen. George B. McClellan, United States Army, received as a gift from his son, Hon. George B. McClellan, of Princeton, includes a gold-mounted sword, set with pearls, inscribed, "To Major General George B. McClellan from many citizens of Boston, February, 1863"; a dress sword and a service saber carried during the Civil War; an engineer's dress sword, inscribed, "Presented to Lieut. Geo. B. McClellan of the Corps of Sappers and Miners, U. S. A., by a number of gentlemen as a testimonial of their high admiration for his gallantry during the War with Mexico"; a dress sword, two engineer's dress swords, and a service saber carried during the War with Mexico; a uniform chapeau worn during the War with Mexico when lieutenant in the Engineer's Corps and one worn during the Civil War; a dress saddle cloth, decorated with three stars, indicating the rank of commander in chief, used 1861-62; a pair of silver spurs, inscribed, "Major General G. B. McClellan from Lieut. George Haycock, 4th Regt. Inf. Cal. Vol."; and a revolver and outfit in a mahogany case owned by the Duke of Wellington and kept by Gen. McClellan on his writing table. A gold watch owned by Maj. Gen. C. C. Washburn, United States Volunteers (1818-1882), was presented by Mr. Robert Kelsey. A uniform chapeau and a pair of epaulets worn by Col. John N. Macomb, United States Army, when second lieutenant, Fourth Artillery, 1833-1836; a uniform chapeau and several pieces of military insignia worn by him when an officer in the Corps of Topographical Engineers, 1838-1863; and several pieces of military insignia and 26 uniform buttons worn when an officer in the Engineer's Corps, 1863-1882, came as the gift of the Misses Christina and Nannie R. Macomb. A uniform coat of gray cloth worn during the Civil War by Maj. Gen. Samuel Jones, Confederate States Army, was presented by Miss Emily Read Jones. A fragment, 28 by 46 inches in size, of the Confederate military balloon made of silk dresses at Richmond, Virginia, during the Civil War, and secured by Prof. T. S. C. Lowe, aeronaut of the Army of the Potomac, after the capture of Richmond in 1865, was donated by his son, Mr. Leon P. Lowe.

To Mrs. E. M. Chapman the Museum is indebted for a collection of relics of the War of 1812-1815, the War with Mexico, and the Civil War, and other objects of historical interest collected by Bvt. Maj. Gen. Edward D. Townsend, United States Army, which included

the following of special note: A crimson silk sash worn by Col. William Drummond, of the British Army, when killed at the battle of Fort Erie, August 15, 1814; six pieces of Mexican military insignia and a pair of Mexican silver spurs used during the War with Mexico; a South Carolina State flag flown on the steamship *Columbia* in 1861; a Confederate artillery flag and a Confederate sword captured during the Civil War; a hand bell, a sand box, and an ivory paper cutter used by Bvt. Lieut. Gen. Winfield Scott, United States Army, and a plaster bust of Gen. Scott.

A sword made in 1786 and carried during the War of 1812-1815 by Col. William Dudley, Kentucky militia, received by transfer from the Army War College, is of special note on account of its design, the grip being of ivory, the pommel of silver in the form of an eagle's head, and the blade bearing the inscription in gold, "Liberty and Independence, E. pluribus Unum."

The naval service was represented by the following gifts: To the very interesting and valuable collection of relics relating to Admiral David G. Farragut, United States Navy, received by the Museum last year, were added two pairs of epaulets worn by him when admiral, one pair when rear admiral, a shoulder strap when vice admiral, and a uniform chapeau, a cap, a belt, two sword knots, 14 uniform buttons, and 8 pieces of silver naval insignia worn by him during the Civil War, from the estate of Loyall Farragut, through J. Herbert Johnston and George C. Hall, the executors, and Rear Admiral John C. Watson, United States Navy, and I. B. Millner, of the United States Geological Survey. A wooden snuffbox, the cover decorated with a gilt medallion showing an equestrian portrait of Napoleon I, presented by Rear Admiral Charles Stewart, United States Navy, to Coxswain William C. Parsons, who presented it in turn to Rear Admiral George H. Preble, United States Navy, came from Miss Susie Preble, through Rear Admiral J. E. Pillsbury, United States Navy, and a uniform coat worn by Matthew Fontaine Maury when commander, United States Navy, 1859-1861, from his daughter, Mrs. Mary Maury Werth.

An oil painting, entitled "Blood is thicker than water," showing the engagement of the Peiho River, owned by Rear Admiral Stephen D. Trenchard, United States Navy; a copy of the Dramatic Works of William Shakespeare presented to him in 1859 in Peking, China, by Missionary S. W. Williams; a copy of the Naval Register for 1815; and a chart of the mouth of the Kennebec River, Maine, published in 1857, were received as a loan from Mr. Edward Trenchard.

Other noteworthy relics of the Revolutionary period lent by Mr. Roberdeau Buchanan, through Mrs. Roberdeau Buchanan, are a gold-mounted sword and a pair of silver-mounted flintlock pistols, owned during the War of the Revolution by Brig. Gen. Daniel Roberdeau,

Pennsylvania Militia; a spyglass and a steel tape measure used by Bvt. Lieut. Col. Isaac Roberdeau, United States Topographical Engineers, in 1791 when assisting in laying out the city of Washington, and two ivory-mounted wooden flutes owned by him, and a branding iron inscribed "Roberdeau."

Pertaining to the early part of the nineteenth century should also be mentioned a portion of the set of fine French chinaware presented by Gen. Lafayette in 1826 to Mr. and Mrs. George Graham, of Virginia, consisting of 7 after-dinner coffee cups and 11 saucers, 2 plates, a waste bowl, a teapot, a coffeepot, and a cream pitcher, received as a loan from Commodore R. G. Davenport, United States Navy; and a collection of relics of Dr. William T. G. Morton, including a miniature portrait of him, two gold lockets (one containing a daguerreotype portrait of him and one of Mrs. Morton), a gold watch, and a cigar case owned by him, and a collection of manuscripts and printed matter relating to his experiments in etherial anesthesia, donated by Dr. William J. Morton.

The large collection of medallic Lincolniana assembled through a period of many years by Mr. Robert Hewitt of New York City and presented to the Museum by Mrs. Robert Hewitt was the most noteworthy addition to the numismatic collections. This consists of 1,200 specimens of medallic souvenirs of President Lincoln, and includes medallions, plaques, medals, medalets, coins, tokens, and badges, all relating to the career of this great American statesman, and is particularly rich in commemorative pieces, almost every event of note in the life of President Lincoln being represented. A notable feature of the collection is that it contains copies in various metals of a large percentage of the pieces represented. Commemorating the life and services of President Lincoln viewed as a whole are a number of large plaques and medallions, including a bronze portrait medallion by J. Andrieu; a bronze portrait medallion made by the Henry Bonnard Bronze Co., of New York, in commemoration of the Lincoln Centennial, 1909; copies in bronze, gilt, and aluminum of the portrait medallion designed by the famous French artist, J. E. Roine, commemorative of the Lincoln Centennial, 1909; a bronze portrait medallion issued by the Republican Club in 1910; a bronze medallion designed by A. Frechinger in 1913; copies in silver and bronze of the portrait plaque designed by Victor D. Brenner; copies in silver, bronze, and lead of the plaque designed by J. E. Roine in commemoration of the Lincoln Centennial and issued by the American Numismatic Society; and copies in silver and bronze of two plaques of different designs, each inscribed with the Gettysburg address. The collection includes also two original Indian peace medals issued during the administration of President Lincoln. Of commemorative medals relating to events in his career issued 1863-1892, mention should be

made of a rare bronze medal commemorating the issuance of the Emancipation Proclamation, 1863; copies in silver and bronze of the medal by J. Paquet commemorating the Northwestern Sanitary Fair, Chicago, in 1865; copies in silver, bronze, gilt, and white metal of the medal by W. H. Key commemorating the death of President Lincoln in 1865; copies in silver, bronze, and aluminum of the medal by H. Bovy commemorating the same event; and copies in silver and bronze of the medal by Franky Magniadas on the same subject. Medals commemorating the Lincoln Centennial in 1909, which are of special interest to numismatists, include copies in three types of bronze of the medal by J. E. Roine, before mentioned, trial strikes of the Roine medal, and strikes in silver from a rejected die of the Roine medal. Many medalets struck during the Civil War or soon after that struggle and decorated with portraits of President Lincoln and other statesmen, are of special note. Of this class of material are many political campaign souvenirs recalling the history of the presidential issues of 1864. The Robert Hewitt collection is remarkable for the very wide range of subjects and types of numismatic material which it covers and constitutes an epitomized medallic record of the career of President Lincoln. Although the bulk of the material is of purely historical and numismatic interest, many pieces are of much artistic merit as well, particularly those struck in commemoration of the Lincoln Centennial in 1909.

The numismatic collections also received by transfer from the United States Mint, Treasury Department, an important addition of medallic material, consisting of bronze replicas of United States military and naval service medals, commemorative medals, and medals of award. The collection includes badges awarded for service in the Army during the Civil War, the Indian Wars, the Spanish-American War, the Philippine insurrection, the occupation of Cuba, the China Relief Expedition, the pacification of Cuba, and the occupation of the Mexican border; also the Congressional Medal, the Certificate of Merit Badge, and the Distinguished Service Cross, the last named decoration having been established since the entry of the United States into the war with Germany, medals representing service in the Navy and in the construction of the Panama Canal, and copies of the life-saving medals awarded by the Government. Of only slightly less interest in this collection are copies of a number of medals awarded to members of the Annual Assay Commissions, 1865-1918; medals commemorating the services of officials of the Treasury and the Mint; medals commemorating notable events in the history of the United States, such as the inaugurations of various presidents from 1789 to 1917, the first embassy from Japan in 1860, and the departure of the Atlantic Fleet from Hampton Roads, December 18, 1907, on a cruise around the world; and a particularly

notable and artistic medal presented by resolution of Congress of March 4, 1909, to Orville and Wilbur Wright in recognition and appreciation of their ability, courage, and success in navigating the air.

The collection of philatelic material in the care of the division of history was increased by 3,186 specimens, of which 2,706 were received from the Post Office Department, and of these 1,506 are examples of new issues received by that department from the International Bureau of the Universal Postal Union, Berne, Switzerland. A number of stamps were also received from individual contributors.

Historical costumes.—Under the able supervision of Mrs. Julian James, assisted by Mrs. R. G. Hoes, the collection of historical costumes, a section of the division of history, has made gratifying advances. The most noteworthy additions were a pair of white satin knee breeches and a waistcoat worn during the War of the Revolution by Col. Tench Tilghman, Continental Army, lent by Mrs. Mary F. Goldsborough; the official costume and sword worn at the court of Napoleon III, by William L. Dayton when American minister to France, 1861–1864, and the official costume and sword worn by William L. Dayton, jr., when secretary to the American Legation in Paris during the same period, the gift of Miss A. L. Dayton; and a dress of white satin brocade trimmed with Brussels lace, worn by Mrs. Annette Henry Alger, wife of Russell A. Alger, Secretary of War, 1897–1899, and United States Senator from Michigan, 1903–1907, donated by Mrs. Alger.

Art textiles.—Of considerable interest among the few additions to the art textile collection were fragments of fourteenth century velvet and seventeenth and eighteenth century brocades presented by Maj. Harry S. Bryan; and a number of embroidered handkerchiefs of fine linen trimmed with Valenciennes lace which, with other textile articles, were additions to the J. Lewis Ellis and Olive M. Ellis Memorial Collection, the gift of Mrs. Charlotte Ellis Danforth.

There was also received as a loan from Mrs. G. B. Willis a rock-crystal drinking cup of Italian Renaissance, trimmed with exquisite enamel work, and a miniature clock decorated with Limoges enamel; also a small oil painting, by Mary Elizabeth Williams.

Exhibition collections.—The changes made in the exhibition collections of the department of anthropology were all of minor importance. The collection of torches, candles, lanterns, lamps, and other illuminating devices, was installed in four cases on the third story gallery of the rotunda in the natural history building, and the whaling collection, consisting of types of harpoons, guns, etc., used in the whaling industry, was put in condition and placed on display in four cases on the opposite side of the gallery. The curator, Dr. Walter Hough, was assisted in the arrangement of this material

according to types and chronology by Mr. Gilbert Hinsdale, who studied the objects with a view to securing data for his catalogue of whaling implements. The four large family groups comprising the Dyaks of Borneo, the Zulus of South Africa, the Caribs of British Guiana, and the western Eskimo, prepared for the Panama-Pacific Exposition in San Francisco, were reassembled in the hall of ethnology by Mr. W. H. Egberts, under the direction of Dr. William H. Holmes, thus completing the splendid series of ethnic groups designed by him. In American archeology the condition of the exhibition as well as the study series was much improved, and many new specimens, as well as selections from the reserve collections, were added to the exhibition series. The collection of Egyptian antiquities and ancient pottery and glassware from the several Mediterranean countries was installed in Kensington cases in the north alcove of the hall devoted to Old World archeology, and some minor additions were made to other series of this division.

In the halls of history in the arts and industries building the changes have not been radical, yet the presentation of the material to the visiting public has been greatly improved. Progress was made in having each case represent a particular historical unit and in arranging these units in logical sequence.

The installation of the Langley flying machine, elsewhere mentioned, necessitated the closing of the east hall and the removal of the exhibition cases for about a month. When the hall was reopened some new cases were introduced and the exhibits otherwise rearranged, adding to its appearance materially. The boat models belonging to the division of mechanical technology, which for a number of years have been on exhibition in the north hall of history, were removed to the boat hall.

The collections of graphic arts in the Smithsonian building were at the end of the year in better condition than heretofore. The Ben Day Rapid Shading Medium exhibit was entirely rearranged, improving its presentation and making it more readily understood by the public; the exhibits of photomechanical relief, both line and halftone, were reinstalled with new material added, and the exhibits of the phototelegraph and akrograph work were also rearranged.

The work of the preparators of the department, which at all times had the special supervision of the head curator, Dr. Holmes, included the installation of the four family groups returned from the Panama-Pacific Exposition in San Francisco. Much new work in the way of modeling, painting, and repairing was also accomplished, including the modeling of a bust figure for the historical costumes exhibit.

Toward the close of the year radical changes in the exhibition halls were initiated through requirements of the Treasury Department, it being found necessary to accommodate the Bureau of War Risk In-

surance in the natural history building of the Museum. At the end of the year limited changes had taken place, with the prospect that every available foot of space would soon have to be surrendered.

Researches and explorations.—The curator of ethnology, Dr. Walter Hough, continued researches on heating and illuminating devices, and began an investigation on the distribution of the curved knife scraper in America and northern Asia. His handbook of the Hopi collection, mentioned in the last report, was issued during the year. Dr. I. M. Casanowicz, assistant curator of Old World archeology, had in preparation a descriptive catalogue of the collection of ecclesiastical art—one of the most popular series under his charge.

In physical anthropology Dr. Aleš Hrdlička, the curator, practically completed his treatise on the history and present state of physical anthropology in North America, and has advanced his comprehensive report on the physical characteristics of the Sioux.

Mr. T. T. Belote, curator of history, has been engaged in preparing a descriptive catalogue of the historical collections, with a view to publication in sections, each section to deal with a specific class or group of material. Those describing the Grant relics and the United States medals were completed during the year, save that information concerning a few specimens is lacking and photographs to be used as illustrations are to be made. The philatelist, Mr. Joseph B. Leavy, compiled a "Catalogue of the postage stamps and stamped envelopes of the United States and possessions, issued prior to January 1, 1918," which was in press at the close of the year. He also prepared for publication a catalogue of the foreign stamps in the National Museum collection.

The head curator of anthropology, Dr. W. H. Holmes, attended the meeting of the National Research Council in Philadelphia in November, 1917, acting as the chairman of its committee on anthropology, and a meeting of the Council of the American Archeological Association in the same city in December. On the former occasion his trip was extended to New York City, where he studied collections, installation, and labeling in the various museums. On behalf of the Bureau of American Ethnology, Dr. Holmes, during June, 1918, investigated the reported archeological finds at the Edgewood Arsenal in Maryland, accompanied by Mr. De Lancey Gill, photographer of the bureau.

In July and August, 1917, Mr. Neil M. Judd, as representative of the Smithsonian Institution in charge of the expedition, assisted the University of Utah in conducting archeological excavations in Iron County, Utah. Upwards of 1,200 archeological specimens and skeletal remains collected from a large mound on the farm of Mr. Isaac Bozarth at Paragonah, were received as the Institution's share of the results of this joint expedition. Mr. Judd spent from April

26 to May 29, 1918, under detail to the Bureau of American Ethnology, conducting explorations in Arizona. This work was carried on under great difficulties, but Mr. Judd was enabled to reconnoiter many ruins on the north rim of the Grand Canyon which had never been seen heretofore by an archeologist. Most of these ruins, both cliff and open-air habitations, are located on the Walhalla plateau.

Mr. Philip Ainsworth Means, honorary collaborator in American archeology, who reached Peru in October, 1917, has reported on certain archeological explorations made in that country and Bolivia.

Dr. Hough, on detail to the Bureau of American Ethnology, with a view to mapping a field of exploration west of Fort Apache and in Tonto Basin, spent six weeks, from May 15 to June 30, 1918, in field work in Arizona. Numerous hitherto undescribed archeological sites were located and in addition a number of photographs and of specimens in natural history and archeology were acquired.

Continuing his investigations on the descendants of the Old American families, Dr. Aleš Hrdlička, curator of physical anthropology, visited Massachusetts and Tennessee for the purpose of extending the study to the members of the Harvard summer school and to the white mountaineers, respectively. He also made researches in Oklahoma securing somatological data on the few remaining full-blooded Shawnee and Kickapoo Indians. Besides giving anthropometric instructions to members of the medical staff at Battle Creek Sanitarium, Dr. Hrdlička assisted the National Research Council on the question of cooperation in preparing historic and ethnographic records of a number of the racial groups of Europe, an accurate knowledge of which is becoming of particular importance.

DEPARTMENT OF BIOLOGY.

As expected, the various divisions of this department report a decrease, both quantitatively and qualitatively, in the additions of the past year. In most cases the decrease is slight, and in one—that of the division of birds—the quality of the additions as measured by the number of genera and species hitherto unrepresented in the collection is much higher than during the preceding year.

In most instances the noteworthy additions relate to the floras and faunas of foreign lands remote from the scenes of the war and war preparations—of China, the East Indies, West Africa, Argentina, Peru, and Panama. Many of the collections added were made previous to the entrance of the United States into the war, but important contributions have also come from expeditions which, although in the field before that time, have not yet returned. These are therefore continuations of collections mentioned in previous reports, such as Dr. W. L. Abbott's work in Haiti, and Mr. H. C.

Raven's in Celebes, Mr. Arthur de C. Sowerby's in China, and the Collins-Garner expedition to the French Congo, as well as the Peruvian Expedition of 1914-15 under the auspices of Yale University and the National Geographic Society. The Museum has been, and is even now, extremely deficient in material from South America, and the collections presented by the authorities responsible for this expedition are therefore of the utmost value to the Museum as forming the basis of future work by American zoologists in that long neglected field.

Mammals.—The most important accession in the division of mammals was the single skull and cervical vertebræ, with photographs of the entire animal, of a new genus and species of river dolphin from the Tung Ting Lake in China, obtained from Mr. Charles M. Hoy, and described by the curator, Mr. Gerrit S. Miller, jr., as *Lipotes vexillifer*. This remarkable novelty belongs to a group of porpoises which includes numerous extinct forms found fossil in Europe and the eastern United States. Its only known living relative occurs in the large rivers of South America. In scientific interest this one specimen exceeds all the other mammals received during the year.

The next important mammalian accession to the national collection during the year is the result of the Peruvian expedition of 1914-15 under the auspices of Yale University and the National Geographic Society. This collection of 884 specimens, made by Mr. Edmund Heller, is the first fully representative collection of mammals received by the Museum from any large area of South America. Until recently the vertebrate zoology of that continent was neglected by American scientists, while the most important collections with their innumerable types and authentic specimens were in the British Museum. In order to provide a solid basis for future work in the United States it was therefore deemed desirable that this material should be compared with the standards in the British Museum, and, as mentioned in the last report, Mr. Oldfield Thomas, the recognized authority on the subject, was persuaded to identify the specimens and make the technical report, thus greatly enhancing the scientific value of the material. The collection includes the types of 10 new forms, among them one new genus of the peculiar and little known marsupial family Caenolestidae.

The 381 mammals collected in the Fernan Vaz region by Mr. C. R. W. Aschemeier of the Collins-Garner Congo Expedition, while not yet critically studied, consist of characteristic West African forms of which the Museum has been greatly in need for comparison with its remarkable East African series. In continuation of previous collecting, as mentioned in last year's report, the collec-

tions made in Celebes by Mr. H. C. Raven, under the grant made by Dr. W. L. Abbott, and in China by Mr. Arthur de C. Sowerby, rank only second to the above. During his exploration in British Columbia Secretary Walcott collected a number of large mammals, including a family of moose, which form a valuable addition to the North American series of mammals. Mention may finally be made of a skull of a killer-whale from Florida, presented by Mr. Lawrence S. Chubb, as it represents a genus not known to have been previously taken on the coasts of the United States.

In making room for the Bureau of War Risk Insurance it was found necessary in October to move the skin collection to the second floor. The completion of the rearrangement of the small skulls much improved the condition of that series. While it was impossible to secure the needed additional accommodations in the attic for the collection of large skeletons, some much needed space was gained by removing from the cases material of little or no scientific value in consequence of bad condition or lack of history. Progress was also made in labeling this collection and in substituting standard paste-board boxes for old ones of odd sizes and makes in which medium-sized skeletons are stored. The final arrangement of the alcoholic material was completed. No change in the storing of the cetacean material, which is most valuable, has yet been possible, owing to lack of proper cases, the skulls of porpoises especially suffering from crowding.

The making up in the office of skins sent in flat by collectors has been continued, as well as the making over or dismounting of some old specimens, 15 medium-sized skins having been thus prepared. The Museum force cleaned 1,307 large and medium skulls, 72 skeletons, 4 sets of leg bones, and 2 antlers, while by contract 4,310 small and medium-sized skulls were thus cared for. This work has progressed so satisfactorily that at the end of the year only about 80 medium-sized skulls and 42 skeletons remained uncleaned. Three large skins have been tanned and 14 skins are now in progress of tanning by contract.

The revised classification of the rodents, undertaken by the curator, Mr. Gerrit S. Miller, jr., in conjunction with Mr. James W. Gidley, assistant curator of fossil mammals, as mentioned in previous reports, has progressed, and a synopsis of the classification was completed for immediate publication. In addition, Mr. Miller has prepared a new edition of his "List of North American mammals in the U. S. National Museum" (Bulletin No. 79). Besides including all additions to the collections made since 1911, its scope has been extended to include the sirenians and cetaceans, the intention being to keep the manuscript up to date for reference, with the idea of publication whenever opportunity affords. Other researches by the curator re-

sulted in two papers now in press, one on mammals and reptiles collected by Mr. Theodoor de Booy in the Virgin Islands and one in which the alleged human characters of the Piltdown jaw are given detailed analysis. Mr. Ned Hollister, superintendent of the National Zoological Park, completed and submitted for printing the manuscript of Part 2 of the report on African mammals in the National Museum. It includes the rodents, the lagomorphs, and tubulidentates. He has also done some work on the lemurs for Part 3. Dr. C. Hart Merriam, associate in zoology, in continuance of his work, has published a synopsis of the members of the grizzly and brown bear groups. The zoologists of the Biological Survey have as usual had unrestricted access to the collections, and Dr. O. P. Hay, of the Carnegie Institution of Washington, has made constant use of them in connection with his studies of the North American Pleistocene fauna. Dr. J. L. Wortmann studied the skulls of primates, insectivores, and marsupials, and Dr. Milo Hellman, of New York, examined the skulls of anthropoid apes with reference to the form of their dental arch. During the year he published a paper giving his observations on the orang, primarily based on material in the Museum collected by Dr. W. L. Abbott. Mr. Roy Andrews, of the American Museum of Natural History, New York, compared specimens of Chinese mammals with material collected by Mr. Sowerby, and Mr. Leon Augustus Hausman spent several days in going systematically through the collection to obtain samples of hair for microscopic examination. Specimens were lent for study to Mr. Cl. Gaillard, director of the Natural History Museum, Lyon, France; Dr. J. A. Allen, American Museum of Natural History, and Dr. Milo Hellman, New York City; Mr. Leon Augustus Hausman, Cornell University; Mr. W. H. Osgood, Field Museum of Natural History, Chicago; Prof. Frank Blair Hanson, Washington University, St. Louis, Missouri; and Mr. Joseph Grinnell, Museum of Vertebrate Zoology, Berkeley, California.

Birds.—The birds collected by Mr. H. C. Raven in Celebes continue to occupy the first place among the ornithological accessions. This year the new material comprises 767 skins and 32 skeletons and is of particular interest, because it includes quite a number of species from the higher altitudes, some of them new to the Museum. Among such novelties are at least two new genera, *Malia* and *Androphilus*, with another possibly hitherto undescribed genus. The collection is also of interest through having been made in the border country between North and South Celebes, the faunas of which differ considerably, though the full significance of the material will not be appreciated until the entire Celebes collection has been carefully studied. As in former years, Dr. W. L. Abbott's own collections in Haiti have resulted in important additions—namely, 394

skins, 44 alcoholics and skeletons, 128 eggs, and 8 nests. Among them are several undescribed species from the outlying island of Gonave, as well as a number of specimens, skins, and alcoholics of the genus *Lawrencia*, the type of which in the National Museum, though described in 1875, was unique until 1916, so that it may now be possible to definitely ascertain the true relationship of this rare bird. West African material has hitherto been very scant in the Museum, and in addition the few specimens here were mostly lacking in essential data. The accession, therefore, of 418 skins, 5 skeletons, 4 eggs, and 1 nest, from Fernan Vaz, French Congo, all carefully prepared and well labeled by Mr. C. R. W. Aschemeier, the Museum's representative with the Collins-Garner Congo expedition, is exceedingly welcome. It contains 10 or more species hitherto not possessed by the Museum, and at least one genus, *Hylia*. The collection of Chinese birds was increased by 536 skins collected by Mr. A. de C. Sowerby in the northern part of China, which supplements the previous series and adds two species to the Museum. The acquisition of species hitherto unrepresented in the Museum was further augmented by the purchase of a small collection chiefly of bulbuls, containing 20 species and 2 genera, and by an exchange with the Public Library Museum and Art Gallery of Western Australia, at Perth, which added 10 species and 6 genera. Mr. Alexander Wetmore, of Washington, donated the type of a new subspecies of the little yellow bittern from the Philippines, described by him during the year. Of North American birds received mention should be made of a series of 75 well-prepared skins and 20 skeletons from southern California, collected and presented by Mr. Edward J. Brown, collaborator of the Museum.

A large and valuable collection of American and foreign bird eggs, numbering some 12,000 specimens, was received as a deposit from Dr. T. W. Richards, United States Navy.

The rearrangement of the study series of skins, which has been in progress as opportunity permitted for the past 10 years, was completed, 32 half-unit cases having been received and utilized. In the meantime, much material belonging to the families first worked over, including large collections from Africa, Celebes, China, and other regions, has accumulated, which will necessitate the interpolation and the consequent expansion of a large portion of the storage. A very important work was accomplished when 12 of T. R. Peale's types were identified, due to the fortunate discovery of an old manuscript catalogue of specimens of the United States Exploring Expedition, and these, with three other types so recovered, were properly labeled and placed in the type cases. The search for old type specimens continues. Mr. Alexander Wetmore determined material

among the skeletons and arranged that part of the collection covering the passerine and picarian birds, the owls, the birds of prey, as well as the pelicans, the cormorants, and related birds, 20 new quarter-unit cases having been provided for their accommodation. There still remains a large accumulation of skeletal material which needs to be cleaned before being distributed in the collection and becoming available for study.

As in former years the curator, Mr. Robert Ridgway, devoted all his time and energy to the continuation of Bulletin 50, on the "Birds of North and Middle America." The manuscript of Part 8, consisting of 2,060 pages, was completed and in proof at the close of the year, and some progress had been made on Part 9.

The assistant curator, Dr. Charles W. Richmond, spent considerable time in filling out and verifying references for Bulletin 50, and also in a careful examination of all proof as well as of the illustrations of Part 8, and determined provisionally for cataloguing and other immediate needs the collections received from West Africa and Celebes. One thousand five hundred species cards, compiled in his leisure hours at home, were added to the office card catalogue. The aid, Mr. J. H. Riley, besides assisting in compiling and verifying references for Bulletin 50, completed a paper on the Copley Amory, jr., collection of birds from northeastern Siberia. The work of reporting upon the African collections, begun by the late Edgar A. Mearns, remains as he left it, efforts to find a competent person to finish it having thus far failed. As usual, members of the Biological Survey, including Messrs. Vernon Bailey, I. N. Gabrielson, Francis Harper, A. H. Howell, and E. A. Preble, have had free access to the collections in connection with their official work; Dr. H. C. Oberholser made almost constant use of the Abbott and other East Indian collections and submitted several reports on them for publication; and Mr. Alexander Wetmore likewise consulted the skeleton, skin, and alcoholic material in connection with various investigations. Since his arrival in Washington, Mr. B. H. Swales, of Grosse Ile, Michigan, has spent considerable time in the division, in continuance of his studies of Michigan birds. Dr. L. P. de Bussy, director of the Colonial Museum of Amsterdam, Holland, while here on his return trip from Sumatra, examined the birds from that island. Among other ornithologists who visited the division at various times consulting specimens in the study series may be mentioned Dr. W. L. Abbott, of Philadelphia; Mr. A. C. Bent, of Taunton, Massachusetts; Dr. Jesse D. Burk, of Los Angeles, California; Mr. A. M. Collins, of Philadelphia; Mr. J. M. Neill, of Austin, Texas; Mr. W. E. Clyde Todd, of the Carnegie Museum, Pittsburgh; Dr. Charles H. Townsend, director of the Aquarium, New York City; Mr. John P. Weth-

erill, of Machodoc, Virginia; and Rev. H. E. Wheeler, of Conway, Arkansas, while specialists residing in Washington who consulted material included Dr. Frank M. Chapman, of the American Red Cross; Mr. Wallace A. Deane; Mr. N. Hollister; Maj. R. W. Shufeldt; and Mr. R. W. Williams. Specimens were lent for study to the Academy of Natural Sciences, Philadelphia; Mr. R. M. Barnes, Lacon, Illinois; Mr. C. B. Cory, of the Field Museum of Natural History, Chicago; Mr. Outram Bangs and Mr. T. E. Penard, of the Museum of Comparative Zoology, Cambridge, Massachusetts; the Museum of Vertebrate Zoology, Berkeley, California; the University of Michigan, Ann Arbor; Dr. R. M. Strong, of the Vanderbilt University Medical School, Nashville, Tennessee; and to Mr. Louis Agassiz Fuertes, Ithaca, New York. A mounted eagle was supplied the Bureau of Engraving and Printing for the purpose of engraving.

Reptiles and batrachians.—Comparatively insignificant as the additions to the herpetological collections are, a few deserve special mention. The 153 specimens from Peru, the result of the Peruvian Expedition of 1914–1915 under the auspices of Yale University and the National Geographic Society, are particularly welcome, as South America is very poorly represented in the national collection. Moreover, Dr. Thomas Barbour and Mr. G. K. Noble, to whom was entrusted the working up of the collection, have submitted their report and the lot contains the types of several new species. Dr. W. L. Abbott collected 82 specimens in Haiti, among them several fine skins of the large iguana *Cyclura cornuta*, of which good material had long been wanting. By exchange with the Public Library Museum and Art Gallery of Western Australia a number of genera and species new to the collection were obtained. From time to time during the year the Biological Survey transferred to the division 425 specimens, mostly from western United States, besides 62 specimens collected in France by Mr. R. Kellogg. In a special endeavor to strengthen the collection of turtles for the purpose of a monograph on the Middle and North American species by the curator, a number of important specimens were secured by purchase.

The principal work on the collections consisted in the refilling and cleaning of the jars in storage. The troublesome mold covering the outside labels has in many cases necessitated their renewal. It is hoped, however, that the varnish now employed to cover the labels will prevent the return of this annoyance. The card cataloguing of the division has progressed but slowly owing to the inability to obtain and keep trained assistance.

The monograph on the turtles of Middle and North America, upon which the curator, Dr. Leonhard Stejneger, has been working for several years, made as much progress as could be expected, considering the limited time at his disposal for scientific work and the con-

stant interruptions to which as head curator of biology he is exposed. As usual the division was visited by investigators from other institutions for the purpose of study, thus by Dr. Thomas Barbour and Mr. G. K. Noble, of the Museum of Comparative Zoology, in connection with their researches on West Indian and Peruvian reptiles; by Mr. E. R. Dunn, of Smith College, Northampton, Massachusetts, who studied the salamanders, especially those from Mexico and Central America. Mr. F. N. Blanchard, of the University of Michigan, devoted more than a month to an examination of the milk snakes, of which he is preparing a monograph. Dr. O. P. Hay of the Carnegie Institution, Mr. C. W. Gilmore of the National Museum, and Maj. R. W. Shufeldt of the Army Medical Museum, have compared material from time to time with specimens in the collection. Assistance was also rendered specialists elsewhere by the loan of material to Miss M. C. Dickerson, of the American Museum of Natural History; to Mr. E. R. Dunn, of Smith College; and to Dr. A. G. Ruthven, director of the Museum of the University of Michigan. A set of poisonous reptiles was lent, as usual, to Maj. E. R. Whitmore, of the Army Medical School, for purposes of demonstration during his lectures.

Fishes.—The only accession of particular merit during the present year consisted of 261 specimens, representing 80 species, from western Colombia, which were obtained in exchange from the Carnegie Museum, Pittsburgh. This collection is of special importance as supplementing the material which came to the Museum in recent years in connection with the Smithsonian biological survey of the Isthmus of Panama. A collection of 33 specimens made by Mr. A. de C. Sowerby in northern China may be noted, as well as the type specimen of *Eristeis kalisheræ* presented by the Leland Stanford Junior University.

The entire collection of fishes was carefully examined, alcohol added and changed when necessary, and many labels restored. For convenience in finding specimens about one-half of the lower floor of the storage was gone over and the family numbers added to each label. A large number of specimens were separated and distributed in the storage. The catalogue entries of the year numbered 4,354, embracing over 26,000 specimens, and the labeling and carding of this material was completed with the exception of the specimens collected by the *Tomas Barrera* expedition, which were entered and labeled, as far as determined, but not carded.

The study of the Cuban material with the view to publishing an annotated list of the fishes collected by the *Tomas Barrera* expedition was nearly completed. Mr. B. A. Bean, the assistant curator of fishes, also finished and forwarded to Ottawa the report undertaken for the Canadian Government upon the collection of fishes

made around Vancouver Island, British Columbia, by Dr. John Macoun and Mr. C. H. Young. The collections have been utilized by the following specialists: Dr. O. P. Hay, of the Carnegie Institution, for comparison with fossil remains from Florida and other localities; Mr. W. L. McAtee, of the Biological Survey, in connection with the determination of contents of birds' stomachs; Mr. Alvin Seale, of the Museum of Comparative Zoology, studying extensively the herring family for his proposed monograph of the group. Specimens were lent to Prof. E. C. Starks, of Leland Stanford Junior University; Mr. Carl L. Hubbs, Field Museum of Natural History, Chicago; Dr. A. G. Ruthven, director of the University of Michigan; the American Museum of Natural History, New York; and the Biological Survey, Department of Agriculture.

Insects.—Preeminently among this year's accessions to this division stands the gift from Dr. H. G. Dyar, custodian of Lepidoptera, of at least 35,000 insects. It should be noted particularly that no less than 15,000 named Lepidoptera are contained in this collection, as well as about 1,000 named sawflies. Mr. B. Preston Clark, of Boston, Massachusetts, collaborator in entomology, enriched the butterflies still further by the gift of 1,125 specimens, mostly from Yucatan and the Philippine Islands. The Department of Agriculture, during the year, transferred about 3,265 miscellaneous insects.

Not much progress was made since the last report in transferring collections to a systematic installation in standard drawers for ready reference, owing largely to the fact that the time of the employees of the Bureau of Entomology had been consumed by work for the bureau. In the preparation of new material a good start was made on the great collections received in recent years from Consul Francis J. Dyer by the aid of a preparator temporarily employed, but the task is of considerable magnitude and alone will consume months.

The year has not been marked by the publication or completion of any general work of monographic or revisional character, researches having resulted only in miscellaneous descriptive papers primarily due to the pressure for determination of material for the Bureau of Entomology or for official entomologists of other institutions. Attention, however, is called to the series of articles by Prof. T. D. A. Cockerell, of the University of Colorado, on exotic bees, which is in continuation of the work undertaken by him last year in revising and arranging the Museum collection of these insects. A third installment of his "Bees in the collection of the United States National Museum" was submitted for publication during the year. In addition to the scientific staff of the Bureau of Entomology, who at all times have free access to the collections for the purposes of identification and study, entomologists from out-of-town institutions consulted the collections during brief visits to the Capital, as follows:

Dr. William T. M. Forbes, of Cornell University, studying Lepidoptera; Mr. P. H. Timberlake, of the entomological laboratory of the Hawaiian Sugar Planters' Association, Honolulu, Hawaii, examining parasitic Hymenoptera; Prof. A. L. Lovett, of the Oregon Agricultural College, Corvallis, Diptera of the family Syrphidae; and Prof. J. S. Hine, of the Ohio State University, Columbus, also Diptera, especially of the family Asilidae. There being now no specialist on spiders in Washington, through arrangement with Mr. Samuel Henshaw, director of the Museum of Comparative Zoology, Mr. Nathan Banks of that institution kindly consented to determine material in that line for the National Museum, and collections of spiders and neuropteroids from China were forwarded to him. Specimens for study, nearly all intended for the revision of genera, were also sent out as follows: To Dr. E. C. Van Dyke, Cornell University, beetles of the genera *Silis* and *Meloe*; to Mr. E. B. Williamson, Bluffton, Indiana, dragonflies of the genus *Heteragrion*; to Dr. E. M. Walker, of the University of Toronto, Canada, dragonflies of the genus *Somatochlora*; to Mr. M. C. Van Duzee, Buffalo, New York, flies of the genus *Dolichopus*; to Prof. A. L. Lovett, flies of the genus *Criorhina*; and to Prof. J. S. Hine, flies of the genus *Eraa*.

Marine invertebrates.—The most valuable contribution of the year in this division is considered by the curator, Dr. Paul Bartsch, to be various sets of Philippine land shells, aggregating 88 specimens, presented by Mr. Walter F. Webb, of Rochester, New York, practically all representing new forms. The collection contains 12 types and cotypes, and in many cases the type specimens are uniques, secured by Mr. Webb at his own expense and donated, with characteristic generosity, to the national collections. The specimens are very important as filling gaps in the chain of the geographical distribution of the Philippine land mollusks. The United States Bureau of Fisheries was, as usual, one of the largest contributors, the most important accession consisting of 156 lots, approximating 2,250 specimens, of identified Philippine chaetognaths, including the type of a new species. Another transfer from that bureau of 24 specimens contained the types of 11 new species of calcareous sponges collected by the *Albatross* Northwestern Pacific cruise, 1906, and reported on by Mr. Sanji Hozawa. From various bureaus of the Department of Agriculture—the Biological Survey, Bureau of Entomology, Bureau of Plant Industry, and the Federal Horticultural Board—miscellaneous lots of invertebrates were received during the year. An important donation from the Canadian Commission of Fisheries, through Dr. Edward E. Prince, contained 107 specimens of mollusks and 589 crustacea secured by the Canadian Stefansson Expedition to the Arctic, 1913-1916. Dr. W. L. Abbott during his trip to Haiti

collected for the Museum more than 180 land shells, as well as crustaceans. From Prof. Max M. Ellis of Boulder, Colorado, 14 species of discodrilid worms, including types and paratypes of eight new species, were obtained in exchange. This important material consists of excellently prepared microscopic slides complementary to the series already possessed by the Museum. More than 2,300 crustacea and a number of mollusks from various localities were secured from the Boston Society of Natural History, also by exchange. Another donation deserving mention was a splendid collection of miscellaneous marine invertebrates obtained in Magdalena Bay, Lower California, by the donor, Mr. C. R. Orcutt, of San Diego, and containing the types of at least seven new species.

As foreshadowed in last year's report, the entire West Indian land-shell collection of Mr. John B. Henderson was brought from his home and installed in a room in the mollusk section, where he is revising the identifications and having the whole collection catalogued so that it will become practically a part of the Museum collections. The registration of the large collections donated by Mr. Henderson in 1915 and 1916 was continued, and the large mass of miscellaneous mollusks and marine invertebrates received during the year was likewise recorded and intercalated in their respective places in the Museum collections. The polygyrid mollusks were entirely relabeled in consequence of their having been examined and their identifications and nomenclature revised by Mr. George H. Clapp, of Pittsburgh, who spent some time at the Museum. The labeling, recording, and card cataloguing of the remainder of the collection of echinoderms was completed to date, and the major part thereof was systematically arranged in storage stacks. Registration of the Philippine madreporarian coral collection was begun, and that of the madreporarian corals of the West Indies continued. The entire helminthological collection of the Museum was overhauled, placed in new containers, relabeled, and arranged in racks, rendering this hitherto chaotic mass of material available to students.

The recent completion of monographic work by several specialists rendered possible the labeling, registering, card cataloguing, and systematic arrangement in the Museum collections during the year of an unusually large number of specimens, including groups of Philippine mollusks and melanellid mollusks from the west coast of America reported on by Dr. Paul Bartsch; Foraminifera of the North Pacific, by Dr. Joseph A. Cushman; calcareous sponges of the *Albatross* Northwestern Pacific Expedition, 1906, by Mr. Sanji Hozawa; Discodrilid worms, by Prof. Max M. Ellis; Cirripedia, by Dr. H. A. Pilsbry; parasitic copepods, by Dr. Charles Branch Wilson; decapod crustaceans, by Dr. Mary J. Rathbun and by Mr. Waldo L. Schmitt; and from the *Albatross* Philippine Expedition, 1907-1910, medusae by

Dr. H. B. Bigelow, scyphomedusae by Dr. Alfred G. Mayer, chaetognath worms by Mr. Ellis L. Michael, and starfishes by Prof. Walter K. Fisher. However, the Bryozoan collection, the greater part of the hydroid, the gigantic protozoans, almost the entire rotatoria, part of the annelid collection, several large groups of crustacea, and many thousand mollusks remain to be registered.

Dr. W. H. Dall, the honorary curator of mollusks, continued his work of rearranging the mollusk collections from the Pacific coast of America and carried forward his studies on that material, especially with a view to completing a check list of the gastropod fauna from the Arctic Ocean to San Diego, California. This involves the clearing up, as far as possible, of the fauna south of San Diego. During recent years, reviews of several genera with numerous species have been issued in the Proceedings of the Museum and during the past year, a paper on the Chitonidae was submitted for publication, and another on the Turritidae, a very prolific family, was nearly finished. With the exception of two or three families the check list referred to is practically completed, being compiled in a manner similar to the check list of bivalves published by the Southwest Museum of Los Angeles in 1916. In addition, the report for the Canadian Government on the mollusks of the Arctic coast of America, including those from the Canadian Stefansson expedition to the Arctic, 1913-1916, mentioned in last year's report, was expanded to include additional material and is now ready for printing. Dr. Mary J. Rathbun, associate in zoology, completed a report on the spider crabs obtained by the Fisheries Investigation ship *Endeavour*, on the coast of Queensland, New South Wales, Victoria, South Australia, and Tasmania, to be published by the Department of Trade and Customs of the Commonwealth of Australia, and also one on the decapod crustaceans of the Canadian Stefansson expedition to the Arctic, 1913-1916, for publication by the Canadian Department of the Naval Service. The results of the latter are valuable as showing a more complete circumpolar distribution for several species than was previously known. Besides continuing work on the bulletin on the spider crabs of America, Dr. Rathbun began the study of the brachyuran crabs of the American Museum Congo expedition, Herbert Lang and James P. Chapin, naturalists, 1910-1916, spending a week at the American Museum sorting and making preliminary notes. The collection represents chiefly the fresh-water and brackish-water fauna of the region visited, and is notable for the large series of each species it contains.

The curator, Dr. Bartsch, in addition to routine administrative work, was engaged with the preparation of reports on various groups of mollusks, and, besides those quoted in the bibliography, a number of his papers were in the printer's hands at the close of the year. He

has in preparation monographs on the nudibranch mollusks of the Philippines, on the Philippine operculate land shells, on the mollusks of the Windward and Leeward Islands of the West Indies, and on the Caeciidae of the west coast of America. His investigations of the Bahama cerions planted on the Florida Keys for the Carnegie Institution were continued and the report thereon is also in preparation. In connection with this work Dr. Bartsch spent about three weeks in the Tortugas. Reports on the Haitian bird fauna, based on material secured during his trip to that island last year, and another on the bird rookeries of the Tortugas, were completed. In connection with the war gas investigations of the Bureau of Mines, Dr. Bartsch also rendered assistance. Dr. T. W. Vaughan, custodian of madreporarian corals, though mostly engaged in studies of the fossil corals, devoted some time to the recent forms, supervising their specific segregation and registration. Dr. C. W. Stiles, custodian of the section of helminthological collections, and Dr. B. H. Ransom, the assistant custodian, continued their investigations on the parasites of man and animals. Mr. Waldo L. Schmitt, assistant curator, completed a report on the decapod crustacea of the west coast of America, which is now going through press. He brought nearly to completion a report on the schizopods of the Canadian Stefansson expedition to the Arctic, 1913-1916, and began the study of the hermit crabs of Japan, as well as the macrura and anomura secured during the *Albatross* cruise of 1904. Mr. Austin H. Clark, assistant curator, in addition to continuing work on the *Ingolf* collection of crinoids and on the remaining part of the "Monograph of the existing crinoids," prepared a report on the echinoderms of the Canadian Stefansson expedition to the Arctic, 1913-1916, incorporating with it additional Arctic material.

Mr. William B. Marshall, assistant curator, devoted to the study of the pearly fresh-water mussels such time as he had available for research work, resulting in the preparation of two papers, one of which was published during the year, and in the continuation of his studies of the diplodons and anodontites for a monographic report. Mr. C. R. Shoemaker, aid, gave special attention to the unidentified amphipods of the collection, and also nearly completed a report on the amphipods of the Canadian Stefansson expedition to the Arctic, 1913-1916. Miss P. L. Boone, aid, in her study of the isopods, submitted two small papers now going through the press and has three others nearly ready. Mr. John B. Henderson, who, as previously mentioned in this report, transferred his splendid collection of West Indian mollusks from his home to a room in the Museum, devoted the greater portion of every day to the reclassification of the collection; continued his researches on the Antillean and East American marine mollusks; and prepared a monograph on the East American scapho-

pod, and, collaborating with Dr. Bartsch, a joint report on the mollusks of the region about Beaufort, North Carolina. Miss Julia A. Gardner, United States Geological Survey, studied the recent mollusks in connection with work on the Alum Bluff formation during the first few months of the year, and Dr. Charles W. Cook, also of the Geological Survey, similarly consulted the collection for the purpose of comparison with the Eocene and Oligocene faunas.

Other specialists prosecuting investigations, who were given the facilities of the division and the subjects which had their attention, were as follows: Dr. Joseph A. Cushman, of the Boston Society of Natural History, marine deposits for the monograph of the North Atlantic foraminifera; Prof. C. C. Nutting, of the State University of Iowa, the hydroids for the next part of his monograph, data for trip to the Island of Barbados, and determining material secured during the trip; Dr. Walter K. Fisher, of Leland Stanford Junior University, starfishes of the *Albatross* Philippine expedition; Dr. Maynard M. Metcalf, of Oberlin College, *Salpa* and *Pyrosoma*, and protozoans; Mr. George H. Clapp, of Pittsburgh, American land shells, especially the polygyrids, assisting the Museum in bringing up to date the identifications and nomenclature of the latter; Dr. L. R. Cary, of Princeton, New Jersey, the alcyonarians, aiding the Museum in the preliminary segregation of the group; Mr. Bryant Walker, of Detroit, Michigan, the Unionidae; Miss Ruth Bennett, of George Washington University, the West Indian operculate land shells; Mr. W. E. Crane, of Washington City, mollusks, comparing and identifying his own private collection of mollusks; Mr. Edwin Ashby, of Sydney, Australia, the chitons; and Mr. Maxwell Smith of Hartsdale, New York, Mr. William Alanson Bryan of Honolulu, Hawaii, Mr. Herbert N. Lowe of Long Beach, California, and Mr. William F. Clapp of Cambridge, Massachusetts, mollusks of various groups.

The Museum continued with great success and to mutual advantage availing itself of the kind assistance of a great number of specialists in various parts of the country and abroad for the purpose of identification and report upon material in groups not covered by its regular staff of scientific workers. A number of such reports have been received and some of them published during the year, among them Dr. Alfred Goldsborough Mayer's "Report upon the Scyphomedusae collected by the U. S. Bureau of Fisheries steamer *Albatross* in the Philippine Islands and Malay Archipelago"; Dr. S. S. Berry's "Chitons taken by the U. S. Fisheries steamer *Albatross* in the Northwest Pacific in 1906"; Prof. G. S. Dodd's "Altitudinal distribution of Entomostraca in Colorado"; Dr. W. G. Van Name's "Ascidians from the Philippines and adjacent waters." In addition to others mentioned in last year's report as being well in hand but

which the Museum has not yet received, a number of manuscripts have been announced and others submitted during the year, thus by Dr. M. M. Metcalf papers on Salpidae and protozoans, Dr. Ellis L. Michael on chaetognaths collected during the *Albatross* Philippine cruise, Prof. Max M. Ellis on branchiobdellid worms in the National Museum, Prof. Frank Smith and Miss Bessie R. Green on African earthworms in the National Museum, Part 1 of Dr. Joseph A. Cushman's Foraminifera of the North Atlantic, Dr. Maurice C. Hall's taeniod cestodes in certain North American carnivores, Dr. H. A. Pilsbry's report on African mollusks in the National Museum, Mr. John B. Henderson's monograph of the East American scaphoda, besides a number of shorter papers by various authors.

In addition to new material supplied to several of the above named collaborators, specimens were lent for study to Prof. Chauncey Juday, University of Wisconsin, Arctic daphnid crustaceans; to Prof. Ernest Carroll Faust, University of Illinois, slides and alcoholic specimens of trematodes; and specimens of various groups to Dr. Henry B. Bigelow, of Cambridge, Massachusetts; Dr. L. R. Cary, Princeton University; Mr. R. V. Chamberlain, Museum of Comparative Zoology; Dr. Wesley R. Coe, Sheffield Scientific School; Dr. Leon J. Cole, University of Wisconsin; Dr. G. C. Crampton, Massachusetts Agricultural College; Dr. C. O. Esterley, Occidental College, Los Angeles, California; Dr. J. Percy Moore, Academy of Natural Sciences of Philadelphia; Dr. Raymond C. Osburn, Ohio State University; Prof. Frank Smith, University of Illinois; Dr. Aaron L. Treadwell, Vassar College; Dr. C. B. Wilson, State Normal School, Westfield, Massachusetts.

Plants.—The number of plants received, though less than last year—which in that respect was abnormal on account of the receipt of the Biltmore herbarium and Dr. O. F. Cook's collection of cryptogams—is above the average of recent years, and about equals that of last year in scientific value. Although the largest accession as far as numbers of specimens are concerned is that of 9,400 specimens transferred by the Department of Agriculture, it is deserving of special notice that the most valuable collections, either as supplying deficiencies in the National Herbarium or helping to make known the flora of regions which have been little investigated, are those acquired by purchase. These include 648 specimens from Argentina, 1,000 from Venezuela and Curaçao, 1,608 from China and Japan received from the Arnold Arboretum, and 1,249 Chinese plants obtained from the Canton Christian College, Canton, China. Two equally important collections were secured by exchange—namely, one from the California Academy of Sciences, consisting of specimens chiefly from California and the Galapagos Islands, and one from the Bureau of Science, Manila, Philippine Islands, totaling 2,506 speci-

mens, collected chiefly in Amboina, Borneo, and the Philippines, while a third one, consisting of 878 specimens from Panama, was donated by Mr. Ellsworth P. Killip, of Rochester, New York, and a fourth, embracing 556 specimens from Alaska and California, was a gift from Prof. W. L. Jepson, of the University of California.

The work connected with the care and natural increase of the herbarium has progressed satisfactorily during the year, the number of specimens mounted approximating 20,000, with about 8,000 to 10,000 specimens still unmounted though in part covered by contracts already made. Besides having been permanently recorded most of the specimens mounted were distributed into the herbarium. The injured material, chiefly from the Biltmore herbarium, has now been repaired and will shortly be incorporated. Systematic fumigation with carbon bisulphide resulted in keeping the collections free from attacks by insects during the year. Mr. P. C. Standley, the assistant curator, continued the segregation of type material, no less than 8,389 specimens having been removed, catalogued, provided with distinctive covers and arranged in systematic sequence. This segregation of the types has undoubtedly been beneficial, as their examination, when actually necessary, is made much more easily so that the specimens are not subject to the breakage inseparable from indiscriminate handling in the general herbarium. Considerable progress was made in the improvement of the cryptogamic collection by the special employment of Miss Mary F. Miller, who redistributed and rearranged the lichen collections, including the accumulations of many years, so that the cryptogams are now in good order.

The question of additional room for cases in the general herbarium remains acute, though the condition was somewhat relieved by the distribution during the year of an unusually large number of duplicates—some 20,921 specimens. In addition to a large number of miscellaneous duplicates, these consisted chiefly of the Canary Island plants presented by Mrs. Alice Carter Cook several years ago, duplicates of the Smithsonian African Expedition collections and from the Panama collections of Mr. H. Pittier. They proved a valuable asset to the herbarium in securing an equivalent number of specimens from the several institutions to which they were distributed. The so-called District Herbarium, consisting of specimens collected in the vicinity of Washington City, was increased during the year by the collection of specimens in critical groups and the herbarium as a whole was rearranged by Dr. Philip Dowell, the specimens being placed in new covers throughout, distinctively printed and labeled. This collection is the actual basis of a new "Flora of the District of Columbia and vicinity," the manuscript of which was completed during the year. The cataloguing of the specimens mounted during the year was accomplished through the temporary appointment of a

cataloguer for a period of about five months. This made possible, also, the cataloguing of a considerable portion of the grass herbarium which was unstamped when transferred to the Museum by the Department of Agriculture. Of the 70,000 previously unstamped grass specimens fully one-half are now stamped and recorded.

Mr. Frederick V. Coville, curator, continued his studies of *Vaccinium*, and in collaboration with Mr. Standley he is engaged in the preparation of manuscript of the family Vacciniaceae for the North American Flora. Dr. J. N. Rose, associate curator, carried forward his investigations of the Cactaceae in collaboration with Dr. N. L. Britton, director-in-chief of the New York Botanical Garden, work which was undertaken in 1911 under the auspices of the Carnegie Institution of Washington. In addition he completed a supplementary treatment of the family Crassulaceae for the North American Flora, the volume of which this family forms a part having been otherwise finished. Mr. William R. Maxon, associate curator, in addition to curatorial and administrative duties, continued his researches on the North American ferns, especially those of the western United States. He has recently undertaken the preparation of a descriptive account of the ferns of Porto Rico. Mr. Standley carried forward his study of the North American representatives of the family Rubiaceae in connection with the North American Flora and completed manuscript for about half of the family. He made substantial progress also on a synoptical work dealing with the trees and shrubs of Mexico. A manual of the flora of the vicinity of Washington was finished during the year and accepted for publication. Undertaken cooperatively by a majority of the Washington botanists primarily interested in systematic botany, the manual was completed under the editorship of Mr. A. S. Hitchcock and Mr. Paul C. Standley, who brought into general agreement the manuscripts of the other contributors associated with them. The volume will appear under their joint authorship, due credit being given to collaborators. Mr. E. S. Steele, editorial assistant, who toward the end of the year was transferred to a position in the Department of Agriculture, brought well toward completion his work on the *Laciniaria*.

Capt. John Donnell Smith, associate in botany, continued his studies of tropical American plants during the past year, making use of material in the National Herbarium. As heretofore the herbarium was used freely by members of the scientific staff of the Department of Agriculture, and botanists from elsewhere who visited the herbarium during the past year were: Prof. Kwan Koriba of the College of Agriculture, Hokkaido Imperial University, Sapporo, Japan; Dr. John K. Small of the New York Botanical Garden, New York City; Prof. O. E. Jennings of the Carnegie Museum of Pittsburgh; Mr. F. S. Collins of North Eastham, Massachusetts; and Mr. C. A.

Weatherby, East Hartford, Connecticut. Owing to war conditions a much smaller amount of material—3,582 specimens in 41 lots—was sent out for study than in many previous years, but that lent was desired chiefly for monographic study which will greatly enhance its value. The following lots deserve special notice: 813 specimens of *Cuscuta* sent to the University of Illinois, for monographic study by Mr. T. G. Yuncker; 1,711 specimens of *Carex* lent to Mr. K. K. Mackenzie, East Orange, New Jersey, in connection with his monograph upon the North American species of this difficult genus; and 367 specimens of *Isoetes* sent to the Missouri Botanical Garden, for use by Dr. Norma E. Pfeiffer, who is monographing the North American species of the genus. During the year 16 persons connected with the Department of Agriculture borrowed from the National Herbarium 62 lots of plants containing 1,624 specimens.

Work of preparators.—The activity of the taxidermists, osteologists, and modelers has been mainly determined by the decision to limit for the present the exhibition work to the renewal of old exhibits, to the filling out of gaps as opportunity offered, to the extension of the general policy of doing away with the old walnut bases for the larger animals, and to keeping the exhibits in necessary repair. The cleaning of skeletons and skulls went forward as usual. Mr. N. L. Brown mounted for the exhibition series four large mammals, as follows: a gray wolf; a wombat from Australia; a babirusa, the peculiar wild boar of Celebes; and a Himalayan black bear. An American tapir, badly needed for the tropical American exhibit, and an Asiatic leopard to replace a very bad specimen, are well in hand. A number of medium sized and small mammals, chiefly monkeys and bats, greatly needed for the same series, were mounted by Mr. George Marshall, who also dismounted or remodeled a large number of older specimens, attended to a great proportion of the material received from the National Zoological Park, and was in charge of the taxidermy work of the mammalian study series. The bird taxidermist, Mr. Nelson R. Wood, though absent from the Museum during part of the year, remounted and remodeled 55 of the old specimens on exhibition and dismounted 282 others which were made into study skins, as well as making 13 skins from fresh specimens. The osteologist, Mr. J. W. Scollick, cleaned 106 bird skeletons, the skeleton of one and the skulls of nine sea cows, a number of smaller mammal skeletons and skulls, made 7 turtle skins, and cleaned a number of turtle skulls and shells, as well as miscellaneous skins and bones. Under his supervision 66 mammal skeletons and 1,287 mammal skulls, four sets of leg bones and 2 antlers were cleaned. Mr. C. E. Mirguet, preparator, finished the cleaning and mounting of the gray whale and hung it in the whale hall, also the skeleton of the young sperm

whale which was suspended from the ceiling in the skeleton hall. He also thoroughly overhauled and repaired the large model of the sulphurbottom whale which began to show cracks and other defects in various places. Another work of considerable difficulty entrusted to Mr. Mirguet was the taking off from the old stands of many of the largest mammals in the exhibition cases and reinstalling them, covering the bottom of the cases with sand artificially colored to match the standard olive green of the exhibition. He also skinned and mounted two large turtles for exhibition—one a giant land tortoise of the Galapagos, the other a large fine specimen of the hawksbill turtle from Florida. In addition he was from time to time employed with making up skins for the study series of various mammals, reptiles, etc., modeling and plaster coating, etc. Mr. William Palmer, preparator, continued his care and work on the District of Columbia faunal exhibit until it was practically broken up by the second floor being turned over to the mammal division for storing of the study series of mammals. Towards the end of the year he was engaged on plans for the reinstallation of the District collection in the form of a series of habitat groups. In the meantime the plaster moulds and casts, mostly of reptiles and fishes, for many years stored in the basement of the natural history laboratory, where they had undergone many vicissitudes, were removed by him to the natural history building, overhauled, cleaned, and repaired as far as possible. Most of them were stored, but casts were made from several, and others were painted and placed on exhibition. Several small casts of amphibians and reptiles were also finished as small groups and installed in the exhibition cases.

Exhibition collections.—Owing to the necessity of furnishing office room for the Bureau of War Risk Insurance of the United States Treasury, a great amount of exhibition space on the second floor had to be vacated and the cases with their contents stored. When late in the calendar year of 1917 the division of mammals and the Biological Survey were called upon to give up their laboratory and storage space in the west and west north ranges, ground story, it was decided to move the cases containing these collections up into the corresponding exhibition space on the second floor. In these ranges were exhibited the District of Columbia fauna, the domestic animal series, all the invertebrates, including the insects, the whole synoptic series, the special exhibits of color aberrations, hybrids, birds eggs and nests, the destructive work of insects, the historical exhibit of the corals of the Wilkes Exploring Expedition, etc. The bulk of the exhibition cases were placed in the adjacent alcoves containing the special exhibits, but a large number had to be given shelter in the whale hall, which thereby became unduly crowded with a very heterogeneous assembly of exhibits. Some of the large

cases could not be thus accommodated and, like that containing the zebu and the yak, were transferred to the south side of the south hall on the first floor, where the original arrangement of the cases with reference to the windows and the wall spaces between them had to be disturbed and the cases crowded together. Toward the end of the fiscal year it became necessary to give up more space for the same purpose, in consequence of which both the big halls on either side of the great skylight hall on the first floor of the west wing had to be cleared of their exhibits. These, consisting of all the mammals from the oriental region, Asia, Europe, Australia, and a large proportion of the African mammals, as well as the African and Palearctic birds, were all moved into the big skylight hall, which thus became completely filled, and had to be closed to visitors, except a narrow aisle permitting the public to pass from the south entrance of the building to the African mammal hall. This, with the bird exhibit in the west range, on the first floor, the whale hall, skeleton hall, and reptile-fish hall on the second floor, were the only zoological exhibits accessible to the public at the close of the fiscal year. At the beginning of the year the total exhibit of this department occupied approximately 68,400 square feet. At the end of the year there was only 26,800 square feet left, slightly more than one-third, about 41,600 feet having been given up.

Under these circumstances it was out of the question to undertake any comprehensive work for the improvement and extension of the series. The only novelties placed on exhibition were a number of smaller mammals, two large whale skeletons (one of the Pacific gray whale, the other a young sperm whale), a couple of large turtles, and some large fish casts. A notable improvement was made in the appearance of some of the large mammal cases by taking the animals off their polished walnut stands, thus making possible a more pleasing and economic arrangement and covering the floor with sand artificially colored to match the standard olive color of the bottom of the other cases—a treatment giving universal satisfaction.

Explorations.—As expected, the war brought practically all field exploration to an end. Only four expeditions with which the Museum is officially connected were in the field during the fiscal year, and only one of them is known to be still active. Nor has any been organized during the year except a botanical expedition which is about to start as the year closes. This expedition was made possible by a cooperative arrangement between the New York Botanical Garden, the Gray Herbarium of Harvard University, the Bureau of Plant Industry of the Department of Agriculture, and the National Museum, the latter's share consisting in allowing Dr. J. N. Rose, associate curator of the division of plants, to take charge of

the expedition, the object of which is to collect for several months in the Andes of Ecuador, special attention to be given to economic as well as systematic material, including Cactaceae, a group upon which Dr. Rose has been engaged with Dr. N. L. Britton in monographic study for several years.

Dr. W. L. Abbott, who was still in the island of Haiti when last year's report closed, came back shortly after, but returned again to that island collecting chiefly in the vicinity of Jérémie and Moline and on the outlying islands of Caycinito and Gonave, where he secured important material, including some new and rare forms of birds and reptiles. His expedition was cut short by an attack of illness which nearly cost him his life, although he has since returned, and is now restored to health. Mr. H. C. Raven, operating under the direction of Dr. Abbott, continued his work in Celebes, moving toward the middle of the island where he visited one or more of the high peaks and obtained several interesting species and genera not found at lower levels. Some of the species appear to be new to science and several genera are new to the Museum collection. Mr. Raven has probably ceased field work on account of the war and is presumably on his way to the United States, but no definite news as to his whereabouts has been received for some time. The Collins-Garner Congo Expedition in the interest of the Smithsonian Institution spent the year near Fernan Vaz, French Congo, and active collecting was presumably still going on at the end of the fiscal year. Owing to the difficulties of communication under the present circumstances it is impossible to give any detailed account of it. However, in spite of many drawbacks, Mr. C. R. W. Aschmeier appears to have had good success in gathering important and valuable collections, three shipments having been received during the year. One of the main objects of the expedition is to secure anthropoid apes for the Museum and according to recent letters is being accomplished, one gorilla and several chimpanzees having been obtained. The explorations of Mr. Arthur deC. Sowerby in China were carried on mostly in the northern part, near Tientsin and in the region within a hundred miles to the northeast of Peking. The collections received have been of great interest. He has lately returned to England for war duty.

DEPARTMENT OF GEOLOGY.

The additions to this department were received in 153 accessions, with a total of 29,266 specimens, of which 9,680 were loans or deposits, classified and distributed as follows: Division of systematic and applied geology, 4,640 specimens; division of mineralogy and petrology, 6,730 specimens; division of paleontology, section of

invertebrate paleontology, 16,950 specimens; section of vertebrate paleontology, 321 specimens; section of paleobotany, 625 specimens. There were also received from various sources for examination and report 337 lots of specimens of rocks or supposed mineral-bearing material and 30 lots of fossils.

Systematic and applied geology.—Special attention has been paid to building up the collection of minerals heretofore classed as rare earths and rare metals, which have become of importance through the outbreak of the war. A group of exhibition specimens, secured largely through the efforts of Mr. F. L. Hess, consists of a large mass of scheelite ore weighing 2,614 pounds, showing the full width of the vein, and said to be the largest mass of tungsten ore yet mined, presented by the Atolia Mining Co., San Francisco, California; about 100 pounds of molybdenum-copper ore from Mohave County, Arizona, showing the interesting geological associations of the molybdenite, gift of the Leviathan Mines Co., Yucca, Arizona; 30 specimens of partly oxidized tungsten ore from the San Antonio mine, Pongo, Oruro, Bolivia, showing the atmospheric alteration of the common tungsten ore mineral wolframite, donated by Mr. Rafael Tabora, New York City; a specimen of scheelite ore replacing limestone and showing unusually large cleavage surfaces of the ore mineral, gift of Mr. Russell Moyle, Osceola, Nevada; a sawn mass of brecciated ferberite ore, the so-called "peanut ore," from the Dorothy vein, Boulder County, Colorado, transferred by the United States Geological Survey; a specimen of molybdenite and molybdite in altered rhyolite, from Chico, Montana, and molybdenite from the mine of George Fast, near La Dura, Sonora, Mexico, presented by Mr. John Fodness, Chico, Montana, and Mr. L. C. Barlow, Deming, New Mexico, respectively; a mass of the newly discovered sulphide tungstenite, from the Emma Consolidated Mines, at Alta, Utah, gift of Mr. William Garret Ridgley, New York City; a specimen of crystallized ferberite from the Gale Mine, Nederland, Colorado, donated by Mr. Harry E. Penny, Boulder, Colorado; a collection of 15 ores and minerals, including molybdenite from Canada, carnotite replacing wood, and ferberite in the form of iridescent crystals, from Colorado, as well as other interesting specimens, presented by Mr. F. W. Horton, Washington City; and a specimen of the rare uranium-vanadium mineral uvanite, impregnating friable sandstone, from Temple Rock, Emery County, Utah. This accession also includes gypsum and magnesite specimens from California, described by Mr. F. L. Hess, and was a transfer from the United States Geological Survey.

The exhibit of steel-hardening metals was further augmented by a number of specimens of vanadium ores with incrustations of crystals of the ore minerals vanadinite and descloizite, from the mines

of the United States Vanadium Development Co., near Kelvin, Pinal County, Arizona, presented by Maj. Harry S. Bryan, Phoenix, Arizona.

Other gifts of interest include a series of specimens from the famous nitrate deposits of Chile, showing the caliche and its natural associations, from Mr. W. L. Whitehead, Cambridge, Massachusetts; a cross fiber vein of asbestos, showing unusually long, pure fibers, from Mr. Charles Sloane, Globe, Arizona; and a specimen of sandstone impregnated with the blue molybdenum sulphate, ilsemanite, from Mr. Moses Moore, Ouray, Utah.

Collections made by members of the staff include large exhibition specimens illustrating unconformities, conglomerates, rock phosphate and phosphatic limestone, secured by Dr. R. S. Bassler; albite crystals of unusual type, columbite, black mica, staurolite, bauxite, and quartz, the last named mainly for use by the Signal Corps of the Army, collected by Dr. George P. Merrill, the head curator of geology, in Georgia and North Carolina; rocks to illustrate weathering, from Virginia and Maryland, obtained by Dr. J. C. Martin; sphalerite with associated minerals and brecciated chert from Picher, Oklahoma, and apatite and hematite, from Iron Mountain, Missouri, collected by Dr. Edgar T. Wherry.

Transfers from the United States Geological Survey contained a mass of graphite from Ratan, New Mexico, showing a columnar structure unusual for that mineral; a collection of blocks, fragments, and pebbles from an Alaskan glacial ground moraine of Silurian age; and a choice figured specimen of arborescent calcareous sinter from the Mammoth Hot Springs, Yellowstone National Park.

To the collection of meteorites were added a 500-gram newly found stone from Eustis, Florida, and a 1,314-gram slice of the Carleton siderite, obtained by purchase; 280 grams of an undescribed stone from Kansas City, Missouri, received in exchange from the Daniel B. Dyer Museum of that city; and an 826-gram specimen of the Burkett, Coleman County, Texas, meteoric iron, by exchange with the American Museum of Natural History.

Besides the usual work in perfecting records, systematizing and completing the collection, segregating and preparing school duplicates, etc., the card catalogue of the economic series has been improved by a cross reference section arranged on a geographic basis.

The division was called upon by the United States Signal Corps on various occasions to do the preliminary cutting on quartzes selected for supersonic work, and the laboratory was also of service to representatives of the Sanitary Corps, United States Army, working in cooperation with the Bureau of Mines in researches on gas defense investigations.

Dr. Merrill continued his researches on meteorites, having completed and forwarded to the National Academy of Sciences for publication a second report on "Researches on the chemical and mineralogical composition of meteorites, with especial reference to their minor constituents," as well as a shorter paper, entitled "Tests for fluorine and tin in meteorites, with notes on maskelynite and the effect of dry heat on meteoric stones." He has also prepared four short papers based on specimens in the Museum's collection, which have either been published or are now in course of printing. In addition to the foregoing, he has published a brief report on a peculiar form of fibrous opal, based on a specimen submitted to the department for examination.

Dr. L. P. de Bussy, director of the Colonial Museum, Amsterdam, studied methods of preservation and installation of the collections; Dr. Whitman Cross, of the United States Geological Survey, spent several days in arranging a collection of Hawaiian rocks; Mr. W. C. Phalen, of the Bureau of Mines, consulted the manganese minerals; and Dr. Alfred P. Dachnowski, of the Bureau of Plant Industry, examined the peat collection in connection with investigations as to the availability of this material for agricultural purposes.

Mineralogy and petrology.—In mineralogy three accessions of exceptional value were received from Mr. C. S. Bement, of Philadelphia, who purchased and presented them to the Museum; the judicious selections made by this donor as to quality for both study and exhibition render his additions of highest importance. The first consists of five particularly fine examples from Franklin, New Jersey, including willemite, hetaerolite, and crystals of rhodonite, zincite, and leucophoenicite. The second comprises two free crystals of scheelite and one specimen of scheelite crystals attached to chalcopyrite, from Mexico; also a fine, large group of manganosite crystals from Franklin, New Jersey. The third contained 11 specimens, including an exceptionally fine, large twinned crystal of quartz and an unusual crystal of danburite from Japan; calamine, pyrite, and milky quartz from Colorado; the rare mineral achtaragdite and a variety of vesuvianite (wiluite) from Siberia; a cut gem of unusual size and color, a free crystal, and an embedded crystal of willemite, and a specimen of willemite with friedelite and white zeolite from Franklin, New Jersey. All of these specimens are suitable for exhibition.

The American consul at Changsha, China, Mr. Nelson T. Johnson, presented a specimen of twinned cinnabar crystals from Hunan Province, China, unusual in size and beauty, showing seven groups of crystals more than half an inch in diameter. This is, as far as known, the finest of its kind in the United States.

Through the interest of Mr. Victor C. Heikes and Mr. F. L. Hess, a specimen showing crystals of tetrahedrite embedded in quartz, from Park City, Utah, and one of galena with crystals of anglesite, from the Eagle and Blue Bell Mine, Tintic District, Utah, were presented by Mr. W. A. Wilson and Mr. W. H. Parker, Salt Lake City, respectively.

The collections were further enriched by the purchase of 72 cut and polished gem stones of variscite, 17 opalized shells from the Cretaceous of South Australia; a large galena crystal from Illinois and beryl from Siberia; an unusually large cluster of milky quartz crystals, four crystals of selenite, and two large pyrites.

By exchanges, 11 specimens of minerals were obtained from Ward's Natural Science Establishment, and four from the Public Museum of the City of Milwaukee. These were principally from foreign localities and represented species or varieties not previously contained in the collections.

Four types of minerals were presented by Dr. Henry S. Washington, Geophysical Laboratory, Washington City; 20 from California, representing material described by the donor, Prof. A. S. Eakle, University of California, Berkeley, California; and a collection of 25 or more specimens, largely described material, by Dr. W. F. Hillebrand, Bureau of Standards, Washington.

Through Dr. W. T. Lee, of the United States Geological Survey, 22 specimens of aragonite crystals, from Amarillo, Texas, were given by Mr. G. D. Bowie of that city.

About 200 pounds each of amblygonite and spodumene, to be used largely in the preparation of school collections, and a number of interesting minerals from near Keystone, South Dakota, were collected for the Museum by Dr. Edgar T. Wherry.

A miscellaneous collection was transferred from the United States Naval Academy, Annapolis, Maryland, late in the fiscal year. As this has not been unpacked, nothing can be said as yet as to its value.

In petrology but one described set was transferred by the United States Geological Survey within the year—that illustrating the geology and ore deposits of the Tintic District, Utah, to be published as a Professional Paper (107) of the Survey, by Prof. Waldemar Lindgren and Dr. G. F. Loughlin. An interesting series of rocks, collected in the Orient by Dr. J. P. Iddings in 1910, and held by him for study since that time, has now been formally turned over to the division.

Owing to the fact that the division was without a head from the resignation of the assistant curator last autumn to the end of the fiscal year, practically no advance work was done on the reserve and duplicate collections.

Before leaving the division Dr. Edgar T. Wherry prepared a paper entitled "Notes on mimetite, thaumasite, and wavellite," which is in press, and he has since made constant use of the collections. Prof. Glenn V. Brown, of Bucknell University, Lewisburg, Pennsylvania, utilized the collections and the chemical laboratory for some weeks.

The resources of the department were also of service to scientific investigators engaged in war work, materials having been forwarded to the Bureau of Standards, Geophysical Laboratory, Astrophysical Observatory, National Research Council, Frankford Arsenal, and American University Experimental Station. Mr. G. F. Loughlin, of the United States Geological Survey, examined all vesicular rocks in the collection to determine availability for use in the construction of concrete ships, and to list localities where such material could be obtained economically.

Invertebrate paleontology.—A collection comprising 9,679 specimens of Middle Cambrian fossils, obtained by Secretary Walcott from the celebrated locality at Burgess Pass, British Columbia, was deposited by the Smithsonian Institution. These form study and reserve material of this wonderful fauna, the types having been deposited previously.

In addition to the exhibition and study material heretofore mentioned, Dr. R. S. Bassler collected a number of large fossils, mainly corals, and fossiliferous limestone slabs for the purpose of enlarging the coral reef installed in the exhibition series last year.

Over 500 specimens of well-preserved invertebrate fossils from the Cretaceous formation of Tennessee, purchased during the year, formed the most important addition to the Mesozoic collections. A second purchase, acquired from Prof. D. S. Martin, Brooklyn, New York, consisted of 110 specimens of fossil insects preserved in copal resin, of interest for both exhibition and study. These were the result of many years of collecting on the part of Prof. Martin, who obtained them by searching through the gum copal from the Pleistocene deposits of East Africa, shipped in large quantities to the varnish factories in the vicinity of Brooklyn.

Various exchanges added valuable material to both the exhibition and study series. Two lots were received from Mr. W. E. Crane, Washington City, the more important being 1,500 specimens representing 500 species of Paleozoic and Mesozoic fossils, especially selected to round out the study series of European forms, the second lot containing 400 ammonites from the Jurassic rocks of France, needed in the revision of the exhibit of these forms. Two lots from Dr. F. C. Clark, Los Angeles, California, added to the study series approximately 1,200 specimens of Tertiary fossils from the Pacific

coast, and the Devonian stratigraphic series was increased by a rather complete representation of fossils from the Hackberry and Hamilton groups of Iowa, received from Mr. Carroll Lane Fenton, Charles City, Iowa. Three exchanges, aggregating 132 specimens, including fossil plants and animals, were obtained from Ward's Natural Science Establishment.

The United States Geological Survey transferred seven small lots of Eocene insects and a fossil fish collected by Mr. Dean E. Winchester in northwestern Colorado. The insects are well preserved, and the rarity of such fossils makes them of value and interest at all times.

All of Secretary Walcott's field collections of 1917, consisting of more than a ton and a half of fossils, have been prepared for study. A large series in his laboratory was labeled and arranged for future study, and the collections are now in better condition, probably, than at any time previously, as he has given personal attention to their arrangement.

In addition to general routine work, over 1,200 exhibition labels were prepared, many of which are of considerable length. The printing of these had been but partially completed at the close of the year. The collection of fossil insects was completely rearranged, a work made necessary by the acquisition of unusually fine lots during the past few years. All of the type and study material is now in final museum form, the collection occupying about 100 standard drawers.

Dr. C. E. Resser, assistant curator, concentrated his individual efforts toward completing the preparation and classification of the Williams collection of Devonian fossils, and to preparatory work on large collections from the Cambrian sandstones of the northwest Mississippi Valley, accumulated by the Secretary a number of years ago, which, on account of their very friable nature, require most careful handling.

The relabeling of all of the old collections in order that the horizons and localities may be stated in terms of to-day was continued, Dr. E. O. Ulrich, associate in paleontology, rendering valuable aid in this work. The advance in stratigraphic geology has been so great in recent years that practically all specimens received prior to 1910 require restudy and relabeling if they are to maintain their value to the scientific world. As in previous years the Museum had the benefit of Dr. Ulrich's assistants in the necessary tagging and locality registering of the Paleozoic collections.

Mr. Frank Springer, associate in paleontology, and his private assistant, Mr. Herrick E. Wilson, devoted their time to the collection of fossil echinoderms, and considerable progress was made in bringing the exact labeling as to horizon and locality up to date.

Dr. T. W. Stanton reports that after a general rearrangement and classification of the Mesozoic invertebrates, in which he was assisted by Mr. T. E. Williard, the collections of this section are now in excellent condition and easily accessible for study or comparison.

The change from the wooden cases to steel ones rendered necessary a complete rearrangement of the Tertiary fossils, which was carried out. An index to the same, comprising several thousand entries, was undertaken and is nearly completed. Under Dr. Dall's direction over 150 drawers of fossils illustrating the Tertiary rocks of the West Coast were prepared, the waste material eliminated, and the choice specimens installed in the study series. Although much still remains to be done in the identification of fossils and the eliminating of material not needed, the Tertiary collections are in excellent condition and readily accessible.

Dr. Mary J. Rathbun identified a very large number of fragments of crabs obtained from Knob Hill (The Lumber Yard), San Pedro, California, by Mr. T. S. Oldroyd. They belong to the Lower San Pedro series, Pleistocene period. Sixteen species were found, of which 12 are identical with recent forms, three are considered new, and one doubtful.

Mr. W. E. Crane, whose services have previously added much to the value of the collections, continued his work by arranging and labeling certain of the series, especially the foreign Cephalopoda.

Dr. Edwin Kirk, paleontologist of the United States Geological Survey, spent some months in the preparation and study of the Museum's Silurian and Devonian collections, particularly those from the western States and Alaska.

Although Secretary Walcott's time for research and writing was limited by war conditions and the need for his work on military committees, of two of which he was chairman, his studies on trilobites were continued, notably that upon the appendages of trilobites, a preliminary report of which was given before the National Academy of Sciences in April, 1918. The material illustrating this study was greatly enriched by a fine series of *Neolenus* specimens from the Middle Cambrian Burgess shale fossil quarry. This investigation is now nearly completed and the report will be published shortly. It will supply much new information upon the organization of the trilobite, illustrating its highly developed appendages. The study of the *Ptychoparia* fauna is still in manuscript, the plates to illustrate it and descriptions of genera and species having been prepared and revised.

Dr. Bassler has directed his researches entirely toward the completion of his monograph on the American Early Tertiary Cyclostomatous Bryozoa in collaboration with Mr. Ferdinand Canu, of Versailles, France. This work was combined with a monograph

completed last year and accepted for publication by the Museum under the title *North American Early Tertiary Bryozoa*, in which over 700 new species and many new genera are described and illustrated. With its completion, Mr. Canu and Dr. Bassler have now undertaken the study of the Bryozoa of the remaining Tertiary formations of North America, a monograph which they expect to complete within the coming year. These same authors also completed a report on the fossil Bryozoa of the Panama Canal Zone, now in course of publication as a part of Museum Bulletin No. 103, and a small monograph on the fossil Bryozoa of the West Indies, to be published by the Carnegie Institution.

Last year Dr. C. E. Resser, assistant curator, reported his Bibliographic Index of American Cambrian Fossils as finished, but upon the advice of friends he has extended the work to include the Cambrian of the world. The increased value to science of this wider study is obvious, even though the completion of the work may be delayed for several years.

Dr. E. O. Ulrich concluded a study of the Museum's large collection of Blastoidea. Dr. Ulrich also spent considerable time on a monographic study of certain families of Paleozoic Crinoidea. The text of two monographs, one of the very peculiar family *Cremacrinidae*, and the other on the genus *Anomalocrinus*, was completed and will be offered for publication as soon as the photographs necessary for their illustration can be made.

Mr. Frank Springer has been engaged on a monograph of the Silurian crinoids of the Ohio Valley, based chiefly upon extensive material obtained in recent years by his private collectors, largely by means of quarrying operations in favorable localities in Tennessee and Indiana; drawings have been made for about 25 quarto plates.

Dr. T. W. Stanton concluded his descriptive paper on the invertebrate fauna of the Cannonball marine member of the Lance formation, and Dr. J. B. Reeside, jr., finished his monograph on American Jurassic ammonites belonging to the family *Cardioceratidae*. Both of these papers are to be published by the United States Geological Survey, but may be delayed on account of the war. Dr. Stanton has also taken up the study of large collections of Alaskan Jurassic invertebrates accumulated by the National Museum and Geological Survey.

Dr. W. H. Dall prepared or finished six reports on Tertiary fossils from the Arctic and west coasts of North America, none of which have yet been published.

Vertebrate paleontology.—By far the most important collection of fossil turtle remains ever brought together from the southwestern part of the United States was transferred by the United States Geological Survey. Many of the specimens are suitable for exhibition,

and no less than 49 are sufficiently well preserved to be identified specifically, 16 being types of new species. In addition, four well-preserved turtles were acquired by purchase; an unusually perfect specimen of box turtle, described by Dr. O. P. Hay as the type of *Terrapene whitneyi*, was presented by Prof. F. H. Whitney, of the University of Texas, Austin, Texas; and an example from the Cretaceous of Georgia, valuable chiefly on account of the rarity of such specimens from that section of the country, was deposited by the Geological Department of the State of Florida.

Fossil bones of the mammoth, rhinoceros, and horse were collected for the Museum in Siberia by Mr. John Koren, to supplement the material obtained by the Koren Expedition in 1914-1915. Among these is a beautifully perfect mammoth humerus over 3 feet in length, indicating an animal of magnificent proportions. Other accessions of value are a partial skeleton of a Cretaceous plesiosaur, presented by Mr. P. Balgord, Wheaton, Montana, and a skull of a fossil horse, collected in Alaska by Mr. George L. Harrington and transferred by the United States Geological Survey.

Mr. C. W. Gilmore, assistant curator of fossil reptiles, was in March appointed associate curator and put in charge of the laboratory and exhibition work of the section of vertebrate paleontology. This change has proven of great advantage to the section in furthering the exhibition work.

The skeleton of *Dimetrodon*, mentioned in the last report as being prepared for exhibition, has been entirely freed from the matrix, the missing parts restored, and the mounting of the specimen about completed. It proves to be the most perfect skeleton of *Dimetrodon gigas* yet discovered. The large head, jaws armed with long, pointed teeth, and the high dorsal spines make this one of the most curious of all extinct reptiles, and it will form a striking addition to the exhibition series. A hundred or more separate bones belonging to this collection of Permian reptiles from Texas have also been prepared and placed in the study series.

The preparation of the turtle specimens collected in northern New Mexico by Mr. J. B. Reeside, jr., begun last year, was completed. All of the best specimens have been restored and are now available for exhibition.

The practical completion of the work on the Titanotheres material, which has extended over several years, has made possible the assembling of the entire collection for identification, classification, labeling, and cataloguing, which has been done with the cooperation of Prof. Henry Fairfield Osborn and Dr. William K. Gregory. Six genera and 24 species are represented in the collection, which comprises several hundred specimens, including more than 100 more or less complete skulls, and it can be definitely said that it is the finest

of its kind in existence at the present time. As a source of exhibition, study, and exchange material, it will prove a valuable asset. Careful selection has been made of the specimens best suited for each purpose, and the entire collection stored systematically.

Good progress was made early in the fiscal year on the preparation of material for mounting a skeleton of one of the large Titanotheres, a work which was, however, temporarily laid aside in order that the services of the preparators could be devoted to the more pressing work on the *Dimetrodon* mount. For the same reason, progress on the Cumberland cave collection has necessarily been slow, but Mr. James W. Gidley has personally continued work on the Fort Union mammals, especially as to determination, classification, and arrangement.

Mr. Gilmore prepared for publication a short paper on the newly mounted skeleton of the armored dinosaur, *Stegosaurus stenops*, and one on the osteology of *Triceratops* with special reference to the brain case. He also completed a description of a fine series of turtle and dinosaur remains from New Mexico, which now only awaits the finishing of the illustrations to be forwarded for publication as a Professional Paper of the United States Geological Survey. While work has progressed on his monographic study of the carnivorous dinosaur material in the Museum collections it was not completed, as was the expectation last year. A paper describing the *Dimetrodon gigas* skeleton is under way.

Mr. Gidley has continued his joint work with Mr. Gerrit S. Miller, jr., on the revision of the Rodentia, living and extinct. A synopsis of the work, which will appear as a preliminary publication, and their investigations on some of the special problems, have been completed. Mr. Gidley's Claenodont paper has been entirely revised and its value very materially increased by the important problems discussed. Descriptions of two new species, representing a new genus of extinct peccary, based on material from the Cumberland cave deposit, are nearly completed.

In connection with the collections of Cretaceous invertebrates, a large number of fossil fish scales has gradually been assembled. Dr. T. D. A. Cockerell took up the study of those from western States, and an illustrated paper has been prepared for publication by the United States Geological Survey.

Dr. O. P. Hay, under a grant from the Carnegie Institution, has continued his studies of Pleistocene vertebrate material; and Dr. J. L. Wortman has studied the Museum collections in connection with some important investigations he is making relative to the fossil primates of the Bridger Eocene and their possible relationship to the South American monkeys.

Paleobotany.—Type material comprised the important accessions in this section. The United States Geological Survey transferred 383 fossil plants, illustrating Professional Paper 108-F, by Dr. F. H. Knowlton. Prof. E. W. Berry, Johns Hopkins University, Baltimore, presented two lots from South America, the first from the Tertiary rocks of Bolivia, valuable not only as type specimens but in furnishing data for additions to the geologic history of that country, the second from the Miocene of Peru; and Prof. E. C. Case, University of Michigan, Ann Arbor, Michigan, presented 28 specimens from Beaver County, Oklahoma, described by Prof. Berry, at whose request the collection was donated to the Museum.

Dr. F. H. Knowlton continued his researches on the flora of the Denver formation, but has been unable to bring this work to a close because of failure to secure illustrations due to war work by the Survey.

Prof. E. W. Berry and Dr. Harvey Bassler, of Johns Hopkins University, studied paleobotanical collections, the former devoting his time to Cenozoic plants and the latter consulting the library and the Carboniferous plants in furthering his work on a monograph of Maryland forms.

Exhibition collections.—The acquisition of many fine exhibition specimens of ores of the steel-hardening metals, and the interest recently aroused by their importance in the manufacture of munitions, led to a complete rearrangement of the exhibits of these materials. So far as possible, these were segregated and arranged in a group of cases, special cases being devoted to the uranium-vanadium minerals and Bolivian tungsten ores. These cases were supplemented by several special exhibits, chief among them being a large specimen of scheelite, weighing more than a ton, and said to contain approximately \$2,000 worth of the metal, and a mass of the newly discovered sulphide, tungstenite.

A number of other recently acquired specimens were installed systematically, and the entire economic series in systematic and applied geology was inspected, many old blocks replaced, and several hundred typed labels supplied.

Important improvements were made in the copper exhibit by cutting and polishing some of the larger specimens, thus adding to their beauty and educational value.

For the first time since its installation upon removal from the old building, the collection of building stones was overhauled with a view to improvement in blocking and labeling, and similar work was begun with the systematic collection on the first exhibition floor.

The entire meteorite collection was installed in new cases built with a special view to the needs of such an exhibit and to the space

to be occupied. It became necessary, however, in February, to close the hall devoted to the exhibition of dynamic and structural geology, and the exhibit was placed temporarily at the west end of the main hall of the section of vertebrate paleontology in preference to storing it. The map showing the known meteorite falls was brought up to date in October.

Two stereomotorographs, fitted with slides illustrating such phenomena as could not readily be shown by specimens, were installed on the first and second floors in connection with the exhibits.

Four slope-top cases filled with exhibits of a more or less temporary nature, made up largely of new accessions, were added to the mineral hall. The cases containing the systematic mineral series were given a thorough cleaning.

An entirely new biologic series of brachiopods, installed in two large cases, contains not only the specimens, but models, photographs, and drawings, designed to show the embryology, anatomy, and evolution of this class. The exhibit of fossil corals, hitherto inadequate to properly illustrate this important group, was increased to three times its former size by the addition of large, showy specimens collected in recent years especially for exhibition purposes. Another important addition was the introduction into both the stratigraphic and biologic series of over 100 photographs of fossils and other illustrations.

The exhibits have been further increased by the installation of four large specimens illustrating various kinds of conglomerates, two specimens showing extremes in growth methods of Algonkian calcareous algae, and a large slab showing stratigraphic unconformity. The coral reef installed the previous year was enlarged by the addition of several layers of limestone and shale, so that in this one exhibit the phenomena of stratification, change of lithology, and occurrence of fossils are illustrated.

Two of the larger cases in the paleobotanical hall were remodeled and new exhibits illustrating pre-Carboniferous plants installed. The large fossil tree stump preserved in sandstone, from the Coal Measures of Kentucky, mounted temporarily last year, was placed on a permanent base and forms a very showy and instructive exhibit. Over 500 new labels, combining scientific data with more popular information, easier of comprehension by the public, replaced the old ones with the paleobotanical exhibit.

When the halls were in such condition that they could be considered of the highest educational value, war necessities required the allotment of the space to the Bureau of War Risk Insurance. The space devoted to the petrological exhibit was vacated for that purpose in February, and that collection is no longer accessible to visitors. Near the close of the fiscal year the halls de-

voted to systematic geology, paleobotany, and the east end of the hall set apart for vertebrate paleontology, were completely dismantled and closed to the public. The present crowded condition of the remaining halls by the temporary storage of specimens and cases, has necessarily reduced both the value and attractiveness of the exhibits. It is hoped that conditions will so improve during the next fiscal year that the halls can be restored to their former state.

Explorations.—During the field season of 1917 an expedition under Secretary Walcott's direction spent fifty days at the Burgess Pass Camp, 3,000 feet above Field, British Columbia, where a section of about 180 square feet was taken out, practically exhausting a quarry which has given the finest and largest series of Middle Cambrian fossils yet discovered, and the finest invertebrate fossils ever found in any formation. More than a ton and a half of material was shipped to Washington for the National Museum collections.

This expedition also visited Lake McArthur to verify a geologic section, and then made the Vermilion River trip, making new explorations particularly in the vicinity of Mount Breese and Breese Pass.

Dr. Merrill was detailed in February to locate quartz suitable for supersonic work by the Council of National Defense—a work which he continued when detailed in May to make collections for the Museum in Georgia and North Carolina. Numerous specimens were secured, some of which have been utilized and others shipped for testing as to their suitability for the purpose. Dr. Merrill has since been requested by the Council of National Defense to take general charge of this important work. For the Museum, he secured materials including albite, columbite, pitchblende, black mica, staurolite, bauxite, quartz, etc., which will fill places in reserve, exhibition, and duplicate series.

Dr. James C. Martin, assistant curator, was detailed in May to collect material to illustrate the unaltered and the partly or wholly decomposed phases of the more familiar varieties of rocks, for school sets of a rock weathering series. The types selected were granite-gneiss, diabase, soapstone, gabbro, sandstone, and limestone, material for about 2,000 specimens being secured from points in Virginia and Maryland. A second detail in the latter part of June resulted in the acquisition of material for exhibition, reserve, and duplicate series, including feldspar, garnet, emery, nephelite syenite, minette, and suites of specimens showing post-glacial decomposition of crystalline rock. These were obtained from localities in Pennsylvania, New York, and New Jersey.

In the latter part of July, 1917, Dr. E. T. Wherry, then assistant curator of mineralogy and petrology, visited the well-known mineral locality at Amelia, Virginia, and secured some interesting material.

Explorations for the purpose of securing suitable exhibition specimens to illustrate stratigraphic geology and paleontology were carried on by the curator and assistant curator of paleontology during June, 1917, and in the same month of 1918. The latter was undertaken too late in the year for the entire results to be incorporated in this report. In June, 1917, in the Frederick valley of Maryland, some carefully selected masses of the limestone conglomerate known as Potomac marble and quartz conglomerate were obtained. The special object searched for was a large mass of edgewise conglomerate to illustrate the phenomenon described by Dr. Walcott as intraformational, and such a specimen was found in a railroad cut near Hagerstown, Maryland. These specimens, together with a large piece of glacial tillite from the Silurian rocks of Alaska, have been mounted on one base, forming a complete exhibit of the subject of conglomerates in general.

Dr. Bassler then proceeded to Louisville, Kentucky, where he collected additional material for enlarging the early Paleozoic coral reef secured in that vicinity in 1916. After some search he succeeded in locating at Elkin a single thick limestone layer showing a geologic unconformity plain enough to be appreciated by the layman, an excellent specimen, 6 feet long and several feet in thickness. The rest of his field trip was spent in the phosphate regions of central Kentucky, where, through the courtesy of the United Phosphate & Chemical Co., a few large exhibition rocks illustrating the phosphatization of limestone and types of fossils in phosphatic strata, as well as many small specimens, were obtained.

Dr. C. E. Resser, assistant curator, spent two weeks in June, 1918, in a study of the Cambrian and pre-Cambrian rocks of the Lancaster Valley in Pennsylvania. The stratigraphic part of the work resulted in the collection of over 500 specimens of Lower Cambrian fossils, particularly trilobites. A large mass of contorted limestone from the pre-Cambrian rocks was quarried out and shipped to the Museum for exhibition. The Cornwall, Pennsylvania, iron mines were also visited and a set of minerals from that celebrated locality secured. Over 100 hand specimens of magnetite in schist were collected near Marticville, Pennsylvania.

During the summer of 1917 Mr. Frank Springer maintained a field exploration in charge of his assistant, Mr. Herrick E. Wilson, covering important Silurian areas in southern Indiana. Valuable additions to the collection of fossil Crinoidea resulted from these operations.

Other explorations from which the division benefited were those carried on under the auspices of the United States Geological Survey by Dr. Edwin Kirk in the Paleozoic rocks of Alaska, and Dr. E. O.

Ulrich in the Cambrian, Ordovician, and Silurian strata of Wisconsin. Knowing the needs of the Museum, they made special efforts to obtain material suitable for the exhibition series.

Collections made by the Canadian Stefansson Expedition to the Arctic, 1913-1916, and worked up by Dr. Dall have furnished useful sets of material for the Museum from the duplicates. An expedition to Magdalena Bay, Lower California, by Mr. C. R. Orcutt, of San Diego, California, has been similarly fruitful.

ARTS AND INDUSTRIES.

Textiles, woods, medicines, etc.—In reestablishing the division of textiles in 1912 it was found necessary, because of the limited means available, to place under the same supervision certain more or less kindred subjects relating to animal and vegetable products. Of these, wood technology was organized as a section near the close of the fiscal year 1915, with an assistant curator in charge. Later the division of medicine, which was then without an immediate head, was also transferred to the care of the curator of textiles, Mr. F. L. Lewton. Though the division of textiles naturally has the curator's first attention, the section of wood technology and the division of medicine also made considerable progress during the fiscal year 1918, despite vacancies in their staff for a large part of the time.

While the number of accessions to the division of textiles was smaller than that reported last year and covered a fewer number of entries, the value was fully as great. Considering all the material under the care of the curator, the number of accessions received is but one less than during 1917, while the entries amount to 189 more. The accessions for the year were as follows: Of textiles 30 accessions with 226 items; of wood technology 16 accessions with 546 items; of medicine 14 accessions with 301 items; and of other miscellaneous organic materials 25 accessions with 459 items.

The most valuable addition to the division of textiles during the year was the 18 samples of fine upholstery velvets and velours contributed by the Collins & Aikman Co., of New York and Philadelphia. These fabrics were all manufactured in Philadelphia from mercerized cotton, mohair, or silk, or combinations of these materials. The series included examples of plain and figured antique venetians, made of the finest quality of mercerized cotton to take the place at a reasonable price of the antique silk velvets which are imitations of old French and Italian fabrics.

The Duplan Silk Corporation, of New York, contributed eight samples of figured novelty silk dress goods, representing beautiful effects in the cross-dyeing of combinations of cotton, wool, artificial

silk, and spun silk, in satin weaves, as well as brocaded piece-dyed satins, and figured cross-dyed crepe georgette and crepe meteore.

To Messrs. Cheney Brothers, South Manchester, Connecticut, the Museum is indebted for five samples of novelty silk fabrics, printed in designs suggesting water movements on a plain weave, soft, drapy material. These were sent as an addition to the large collection already contributed by this firm.

Fine silk fabrics ornamented with attractive designs by means of discharge printing received from A. H. Straus & Co., and the Oriental Silk Printing Co., of New York City, are believed to be among the best examples of this method of printing fabrics that have been produced in the United States. The first named firm contributed nine specimens of Luxor taffeta, in Persian, Saracenic, and Italian designs of the eighth, thirteenth, and fourteenth centuries, and two specimens copied from ancient Peruvian fabrics. The Oriental Silk Printing Co. sent an example of their Wedgwood prints, showing a design copied from Wedgwood pottery, which carries out remarkably the relief effect desired.

The series of novelty silk dress goods was further augmented by the gift of two printed silk poplins from Reiling & Schoen (Inc.), and a specimen of golden-yellow Gros de Londres for draping with a piece of pale brown georgette crêpe printed in a unique spiderweb-like design called "camouflage" and suggesting Javanese batik work, from the Rockland Silk Co. (Inc.), of New York. Three other types of new silk fabrics were the gift of J. A. Migel (Inc.), of New York, a coral pink specimen of "Moon-Glo" crêpe, a novelty crêpe-weave fabric in salmon and gold having a metallic-like surface, and a rough-surfaced fabric printed with an all-over oriental design.

Woolen fabrics of the worsted type, woven from combed wools, are well represented in the Museum collections, but the carded woolen industry has not been adequately covered heretofore. This makes particularly welcome the contribution from the Worumbo Co., of New York, of 10 excellent examples of carded woolen fabrics woven at Lisbon Falls, Maine, comprising broadcloth, beaver, zibeline, chinchilla, flannels, and overcoatings, and a strong corkscrew-weave fabric used for shoe tops. Owing to the need of conserving wool for use in the manufacture of military clothing, new types of fabrics for civilian use have been brought out by a number of manufacturers. Leshner, Whitman & Co. (Inc.), of New York, have contributed a specimen of one of these under the name of "Honey Cloth," a cotton-warp worsted having the weft threads composed of one-fourth mohair and three-fourths wool.

To the series of implements used for preparing, twisting, and weaving textile fibers was added an old flax breaker from Virginia, the gift of Mr. Lester M. Green, Mount Jackson, Virginia. Mr. H. L.

Shaw, of Glen Rock, Pennsylvania, supplemented the old rope machine he donated last year by seven specimens of twisted yarns and ropes and three samples of flax and jute. Two small looms of the types employed in producing Gobelin and Beauvais tapestries and used by her husband in illustrating his lectures on tapestry, were presented by Mrs. Charles M. Ffoulke, of Washington, together with a repairing board used in France for mending such fabrics.

Some of the first embroidery machines brought to the United States from Europe are at present doing war work by embroidering service insignia for the United States Government. The Kursheedt Manufacturing Co., of New York City, which has for many years produced official emblems and such distinguishing marks for the United States Army and Navy, has contributed 107 specimens of the official emblems of the United States Army, the United States Navy, the Food Administration, and the Boy Scouts of America, embroidered by the Sauer and Schiffl machines on standard uniform fabrics. The series, including rating badges and service insignia of petty officers of the Navy and noncommissioned officers and privates of the Army, was carefully labeled to show the rank and service represented by each specimen, and mounted in the order of precedence observed when the men wearing such insignia are on active duty. It makes a most instructive and popular exhibit.

To Mr. W. E. Safford, of Washington, the Museum is indebted for the loan of three pieces of beautiful ancient fabrics and a workbasket containing implements for spinning cotton obtained by him from prehistoric graves near Ancon, Peru, and a gold-embroidered Venetian cope showing very fine workmanship. Other foreign hand-decorated textiles were added to the collections through the loan, by Mrs. L. M. Greene, Washington City, of a heavily embroidered Chinese crêpe shawl, and by the Rev. John W. Quinton, Harpers Ferry, West Virginia, of a block-printed silk crêpe shawl.

Examples of most painstaking needlework were received in the form of an embroidered picture, depicting a Norwegian landscape, done in shaded silks and lent by Mrs. Frithjof Hiortdahl, Hyattsville, Maryland, and seven embroidered medallions, representing coins of the United States, set in two star-shaped pieces of tatting, the work and gift of Miss Nancy Millholland Wharton, of Cumberland, Maryland.

The accessions of specimens other than textiles, woods, and medicines, received during the year, were the loan by Dr. Riley D. Moore, of Washington, of 42 specimens of old walrus and mastodon ivory, suitable for mounting as jewelry, collected by Dr. Moore in Alaska; the gift by Mr. James Davis of Shipman, Virginia, of two nests of the chimney swift, for comparison with the edible nests of the Chinese

swift; and a large series of foodstuffs, received as gifts from manufacturers or as transfers or loans of Government property.

This material was obtained as the outcome of plans outlined last year—to enlarge the scope of the old section of foods and to arrange an exhibit emphasizing the importance of food conservation desired by the Food Administration. Requests for exhibit material of foodstuffs which could be substituted for wheat resulted in the following contributions: From the Baltimore Pearl Hominy Co., Baltimore, Maryland, 18 samples of corn products; Menomonie Milling Co., Menomonie, Wisconsin, 8 lots of barley products; the Quaker Oats Co., Chicago, Illinois, 6 examples of oatmeal and oat flour; J. W. Sederquist, Red Oak, Iowa, oat flour made from rolled oats; the Great Valley Mills, Paoli, Pennsylvania, 7 specimens of oat, rye, barley, and rice products; the Sperry Flour Co., San Francisco, California, 5 samples of rice and barley products made at Stockton, California; the Clarx Milling Co., Minneapolis, Minnesota, 5 examples of whole wheat, buckwheat, and corn products; the Dodge-Hooker Mills, Wausau, Wisconsin, 3 lots of barley products; the Otto Weiss Milling Co., Wichita, Kansas, specimens of blackhull kafir and feterita, two types of grain sorghums grown for human food on lands too dry to produce wheat, and mixed flour prepared therefrom; and from the Schulenburg Oil Mill, Schulenburg, Texas, a sample of Allison flour made from cotton seed by the Baumgarten process.

The conservation of surplus fruits and vegetables by drying or dehydrating being especially desirable at the present time makes particularly welcome samples of commercial products suitable for exhibition contributed from the following firms: Anhydrous Food Products Co., Chicago, Illinois, E. Clemens Horst Co., San Francisco, California, Wittenberg-King Co., Portland, Oregon, Everfresh Food Co., Ogden, Utah, and John H. Fowler Co. (Inc.), Westfield, Massachusetts.

The high food value of soy beans and peanuts has long been known, and through wider use the popularity of these two important foodstuffs has greatly increased. Material suitable for showing these products was donated by the Sea Island Cotton Oil Co., Charleston, South Carolina, the Cleburne Peanut & Products Co., Cleburne, Texas, and the Chicago Bean Bread Co., Chicago, Illinois.

In order to convey in a graphic manner the comparative energy value of different foods, a series of 74 models of ordinary articles of diet was procured by purchase, each model representing in approximately correct household measures a quantity of food producing a heat value of 100 calories. In so far as its heat-producing value goes, each specimen is exactly the equivalent of every other specimen shown in the series. This exhibit presents a valuable object lesson

in that it shows, at a glance, the relative heat value of the different articles of food, in a form easily comprehended by everyone, without the necessity of comparing or interpreting the figures representing the chemical analysis.

For the exhibit of foodstuffs and food conservation there was also obtained from the Department of Agriculture, by transfer, 72 specimens of corn, soy beans, edible oils, and dehydrated foods, and on loan 100 prize jars of canned food products put up by boys and girls in State contests of club work.

All of the collections under the care of the curator have been carefully inspected for insects, certain materials like wools and foodstuffs having been fumigated from time to time. Most of the textile exhibits received during the year have been installed. Owing to changes in the staff the progress in the installation of woods, medicines, and textiles was, however, much interrupted, but is now well under way again. The crowded condition of the south hall prevented the installation of many new specimens without the taking down of exhibits already on display. In many cases older material was replaced by new, but where exhibits requiring much time and care in their installation are especially attractive the curator was loath to make a change.

An investigation of the early history of the first cotton spinning frame and the first cotton card built in the United States, both of which are now on exhibition, was begun, and data collected for a publication on this subject. During the latter part of the year much time was given by the curator to planning an exhibit covering the subject of the conservation of important foodstuffs. Assistance was rendered by the division from time to time during the year, to the United States Food Administration, the United States Shipping Board, the Bureau of Standards, the Bureau of Plant Industry, and numerous individuals, in furnishing special information on industrial raw materials and the identification of specimens of fibers, fabrics, gums, resins, seeds, and woods. The curator furnished the identification of the cottons introduced by the Office of Foreign Seed and Plant Introduction and Distribution, United States Department of Agriculture, and for inquirers outside of the Government service made bibliographical compilations on glue, rubber, perfumes, silk culture, dehydrating machinery, and moisture contents of fibers. At the request of the Food Administrator for the District of Columbia, the curator, with the permission of the Secretary of the Institution, served as chairman of the Committee on Exhibits for the District, from May 14, 1918.

Investigators who used the collections for research and the subjects consulted included: Dr. L. P. de Bussy, director of the Colonial Museum, Amsterdam, installation methods for textiles and raw

products; Mr. John P. Neligh and Mr. G. W. Barghausen, of Washington, weaving apparatus with a view to constructing a bedside loom for convalescent soldiers; Mr. R. G. Richards, of the United States Shipping Board, ivory and casein; Mr. H. F. Grady, also of the United States Shipping Board, hairs, furs, and kapok samples; Mrs. M. P. Harland, of Washington, period designs and fabrics for interior decorations; Mr. George C. Zwiebel, Wilkes-Barre, Pennsylvania, natural and artificial pearls for the purpose of manufacturing the latter; Mr. H. C. Eyer, East Rochester, New York, oil-yielding seeds of palms for commercial use; Mrs. F. C. Norlin, La Harpe, Illinois, old coverlets; and Mr. A. E. T. Hausmann and Mr. Ivan P. Tashof of Washington, Mr. H. W. Lawson of Takoma Park, District of Columbia, and Mr. Willard L. Pollard, of Chicago, various collections for patent investigations.

Owing to the resignation of Mr. Roger B. Maxwell, the assistant curator of wood technology, in September, the section of wood technology was practically inactive until the appointment of Mr. W. M. N. Watkins to that place in January. Almost the entire effort of the staff was then given to securing exhibition material and to properly installing and cataloguing the same. The 16 accessions to the section during the year compared very favorably in value with those of 1917, and far exceeded them in amount. Without doubt the most scientifically important accession was a wood collection transferred from the United States Naval Academy of Annapolis, Maryland, through Rear Admiral E. W. Eberle, United States Navy. This series is made up of woods produced by 344 of the trees indigenous to North America and is in the form of convenient hand samples for study. For the wood of each species represented in the collection, there is authentic data as to its specific gravity, ash contents, fuel value, weight per cubic foot, etc., which were obtained during the preparations of the Tenth Census Report in 1880. In compiling the data for volume 9 of this report a careful examination of the woods produced by the indigenous trees of North America, exclusive of Mexico, was made, the object being to determine the fuel value and the value as material for construction of the principal timber trees of North America. The latter was obtained by experiments made with the United States testing machine at the Watertown Arsenal. In order to secure proper material for the experiments, it was necessary to obtain a much larger amount of wood of the various species than was actually used. This surplus was worked up into sets of hand samples, showing as far as possible, the bark, sap and heart wood, by Dr. C. S. Sargent, director of the Arnold Arboretum at Harvard University. These sets, more or less complete, were sent to educational institutions of the United States

and Europe, and it was one of these collections which the United States Naval Academy sent to the Museum.

Closely allied, but covering a much smaller area, is the gift of the New York State College of Forestry, Syracuse, New York, of a collection of woods, 31 in number, representing some of the more important species in use in the industries of New York State, each specimen properly labeled with scientific and common names, a reference as to their range and distribution, weight to the cubic foot of dry wood, and an enumeration of their uses.

A third accession of value both from a scientific and exhibition standpoint is a transfer from the War Department, Office of Public Buildings and Grounds, of 36 log sections cut from trees felled in Smithsonian and Seaton Parks when recently clearing the ground for the erection of temporary buildings to house the Medical and Ordnance Departments. These logs are now being made into slabs at the mill, preparatory to cutting into wall specimens and hand samples for study, distribution, and exchange.

Perhaps the most elaborate display that could be worked up for the space allotted to it is the series of "Korelock" veneered doors contributed by the Paine Lumber Co. (Ltd.), of Oshkosh, Wisconsin. It consists of one frame with pair of veneered mahogany entrance doors and elliptical panel transom, one side hand carved and being an exact duplicate of entrance doors manufactured for the Canadian Parliament building at Edmonton, except a change in carved medallion, the other side inlaid with white holly and ebony; seven "Korelock" doors, beautiful in design, veneered with Circassian walnut, prima vera mahogany inlaid with rosewood, gray and brown ash, quartered white oak inlaid with mahogany and white holly, etc., and portraying various finishes; five sample pieces showing the method of door construction; one table veneered with curly red birch; and, in addition, installation fixtures for the above, consisting of pedestals, pilasters, panel work, platform and mouldings, all of selected curly red birch. The exhibit as installed in the Wood Court stands as a model for thoroughness and genuine cooperation, placing wood products before the public eye and bringing producer and consumer closer together.

Through the cooperation of Mr. Roger B. Maxwell an interesting exhibit was received from the American Propeller & Manufacturing Co., Baltimore, Maryland, of which company Mr. Maxwell is chief inspector. This consisted of a standard, two-blade, quartered-oak aeroplane propeller, together with the rough assembled block showing one side of the propeller after partial duplicating, and the seven laminae from which it is made. There was also included an aeroplane impeller, of laminated wood construction, the middle lamina

being true mahogany and the outer ones black cherry. Its use is to furnish power for the generation of electric energy.

The Museum is indebted to A. G. Spalding & Bros., of Chicago, Illinois, for additional cooperation by the gift of a series of 10 specimens showing steps in the manufacture of a white ash baseball bat, and five finished bats of various qualities. Crane & MacMahon (Inc.), New York City, sent a series of eight specimens showing the public how a hickory wagon wheel is built, from hub to felloe band. In order to contrast the method of assembling the parts of an automobile wheel from felloe to hub—the reverse of that used in turning out a wagon wheel—Hoopes, Bro. & Darlington (Inc.), of West Chester, Pennsylvania, furnished 10 automobile wheel parts, three partially assembled wheels, and a finished wheel with hub inserted, all made of hickory.

The California Redwood Association, of San Francisco, California, made a most attractive addition to their already large display by sending 14 redwood boards, a newel post, 3 balusters, 2 table legs, and 5 photographs of redwood trees. The boards show various finishes applied to the tangential surfaces of figured redwood. The newel post, table legs, and balusters were left unfinished to show the natural grain of the wood.

The method of manufacture of apple and beech saw handles is shown in six stages by three sets of handles from Henry Disston & Sons (Inc.), Philadelphia, Pennsylvania.

Three wooden plane blocks, illustrating one of the uses of native hard woods, comprise the only Colombian species in the collection. These planes were made at El Bana, Colombia, and were presented to the Museum by Mr. H. M. Curran, of Laurel, Maryland.

The Brunswick-Balke-Coller Co., of Chicago, Illinois, added to their sporting goods display by sending a fancy wood billiard cue, in the rough, showing the process of manufacture, together with specimens of the eight woods used in inlaying the above style of cue.

The Armstrong Cork Co., of Pittsburgh, Pennsylvania, sent a large colored transparency of a cork oak tree to supplement the series of cork products presented last year, and the Clyde Iron Works, of Duluth, Minnesota, 13 photographs portraying steam log loaders, cableway, and outhaul log skidders, and various other phases of modern steam logging operations.

On February 2, 1918, the exhibit of wood technology, filling the southeast court of the arts and industries building, was opened to the public. The large National Forest model, thoroughly cleaned and retouched to bring out its brightness and inclosed in glass, formed the centerpiece. Another large floor case contained the model showing turpentine orcharding and the manufacture of gum spirits in the Southern Yellow Pine Region, and material illustrating com-

mercial methods of collecting the crude gum was displayed in the wall case behind this. Cork bark and its products also occupied space in the wall case. A large model of a timber preservation plant and a smaller one showing wood preservation on the farm occupied two adjacent floor cases, together with a collection of liquid chemicals for preserving wood. Other floor cases contained the products of the California redwood, diagrams and other devices showing forest resources, and exhibits illustrating the various steps in the manufacture of baseball bats, tennis rackets, bowling balls, duck pins, and tenpins, golf drivers, saw handles, pitchfork handles, electric sad-iron handles, cedar cigar boxes, and phonograph horns. The east wall of the court was given over to the exhibit of Philippine woods, while the commercial mahoganies and other foreign and native woods were installed on the south wall.

On 3 sides of the edge of the balcony surrounding the court is hung a series of Argentine woods, while over the entrance to the court is a large plank of California redwood.

During the year the beautiful Paine "Korelock" door exhibit, before mentioned, was installed, arranged in the form of a booth in the southwest corner of the court, all installation fixtures being furnished by the donors. The huge pair of carved entrance doors form one side of the booth, while the seven interior doors form the opposite side and the back. The latter are placed on pedestals on a raised platform, and are free to move in a complete circle in either direction, showing both sides fully. Pilasters supporting the panel work and mouldings complete the permanent installation. The polish given to the standard aeroplane propeller is equal to that of the finest piano, and, to prevent handling, the propeller and its attendant parts were installed under glass, a special display fixture being made for it in the Museum shop.

It is realized that Museum material is only as good as the data with which it is linked. Hence, effort is being made to have assembling and cataloguing of material go hand in hand. On the whole, the collections are in very good condition.

The only material transmitted to investigators outside of the Museum consists of one set of 22 mahoganies made up into 4-inch by 6-inch hand samples, sent as an exchange to Mr. Roger B. Maxwell of the American Propeller & Manufacturing Co., Baltimore, Maryland, for use in a study of mahogany for aeroplane propellers.

Mr. Joseph Donner, who was appointed assistant curator of medicine on August 16, 1917, having been inducted into the Sanitary Corps of the United States Army, was furloughed on January 31, 1918, and Mr. Charles Whitebread appointed as his successor, taking up the work of the division of medicine on April 2, 1918. The year was an active one in this division, and a number of important ac-

quisitions were made. Efforts were concentrated on obtaining material for exhibition purposes, and as a result the increments were of educational rather than scientific value. The most important accession of the year was a gift by Armour & Co., of Chicago, Illinois, of 73 specimens illustrating the subject of Organotherapy, an old therapeutic measure. Pliny mentions the use of brains of animals in the treatment of jaundice, and it is believed that this medicine was employed by the early Egyptians. The extensive use of the substances of internal secretion is, however, of recent origin. The organs of the body deliver their secretions directly into the blood stream and, being essential for the maintenance of health, it was not unreasonable to expect that the artificial administration of these secretions would have a beneficial influence in certain conditions. Three of the organs of internal secretion have achieved so fixed a place in medicine as to have received official recognition, namely, the hypophysis, the suprarenal capsule, and the thyroid gland. Other substances of this kind which have firmly established their claims have not yet been included in the United States Pharmacopoeia; however, most of them are in the experimental stage. This contribution consists of 22 fresh specimens of glands and glandular tissues, and 50 specimens of the finished products in the different forms in which they are administered—powders, capsules, tablets, and ampules.

Fairfield Bros. & Foster, of New York City, donated 13 specimens to illustrate the manufacture of pepsin. Pepsin is an official drug and one of the most important obtained from animals. The power of official pepsin to dissolve 3,000 times its own weight of freshly coagulated and disintegrated egg albumen has caused its extensive use in medicine to improve the digestive powers of the stomach. These specimens illustrate the method of obtaining the mixture containing the proteolytic ferment or enzyme (pepsin) from the glandular layer of the stomach of the hog. In addition to specimens of the finished product in its several forms, there is included in the display a sample of pure pepsin, which has a standardized strength of 1:20,000; that is, it has the power to dissolve 20,000 times its own weight of freshly coagulated and disintegrated egg albumen. The company which furnished this sample of pepsin states that a pepsin of higher strength has not been obtained.

Some exceptionally good specimens of crude vegetable drugs were contributed by Gilpin, Langdon & Co. (Inc.), of Baltimore, Maryland. A great deal of care was exercised by the contributor in the selection of this material, and it is believed that it will be of popular interest, pointing out as it does some of the parts of plants used in medicine. This accession consists of 34 entries, and is comprised of the following parts of plants: Barks, buds, bulbs, corms, flowers,

fruits, fungi, gums, gum resins, herbs, juices, leaves, petals, pith, pulp, rhizomes, rinds, roots, seeds, strobiles, tops, tubers, whole plants, and woods.

The Museum is indebted to Merck & Co., of New York City, for 43 specimens of chemicals made synthetically, and to The Heyden Chemical Works, also of New York City, for 16 specimens of synthetic medicinal chemicals. The number of drugs manufactured synthetically increases with the advance in chemistry, and at the present time this class is very numerous. Many of the synthetic chemicals deteriorate in a comparatively short time, but the 43 specimens contributed by Merck & Co. were selections of the more stable compounds of this kind which will not undergo color or other changes for a considerable length of time.

Of more than ordinary interest from an educational standpoint was a gift of 36 specimens by Frederick Stearns & Co., of Detroit, Michigan, illustrating the following classes of plant constituents: Alkaloids, fats, ferments, fixed oils, glucosides, gums, mucilages, oleoresins, plant acids, resins, saccharides, simple bitters, starches, sugars, tannins, volatile oils, and waxes.

Opium and its derivatives are undoubtedly the best known of the narcotic drugs, and, for the purpose of having this drug properly represented in the collections, there were obtained by contribution from the Hoffman-LaRoche Chemical Works, of New York City, one sample of Persian gum opium and nine specimens of opium products.

Samples of cinchona bark, 4 from Ecuador and 12 from the Netherlands Indies, and two samples of aloes from Curaçao, West Indies, were transferred to the division from the Pharmacognosy Laboratory, Bureau of Chemistry, Department of Agriculture. From the Roessler & Hasslacher Chemical Co., of New York City, were obtained by gift 11 specimens of inorganic chemicals and one sample of medicinal soap, and from the William S. Merrell Chemical Co., of Cincinnati, Ohio, one specimen of natural oil of sweet birch, 2 specimens of salicylic acid, and 4 specimens of salicylates.

Cascara sagrada is a shrub indigenous to northern California, Washington, Oregon, and the southwestern part of British America. The bark, the part used in medicine, is collected in spring and early summer and kept at least a year before being used. The active principles are extracted from the bark, after it has been powdered, by the percolation process with alcohol. This medicine belongs to the group of vegetable cathartics whose activity depends upon one or more oxides of methylantraquinone. Its chief active principle is emodin. *Cascara sagrada*, in the form of the official extract and fluid extract, is a very popular medicine and is one of the well-known drugs which it is proposed to illustrate in detail. With a view to

getting material for this purpose, correspondence with different persons in the State of Washington resulted in the obtaining by donation from Mr. Alexander Gardiner, of North Bend, of a section of a cascara sagrada tree 3 feet long, and 16 small photographs showing the method of gathering the bark and preparing it for market. Dr. C. W. Johnson, dean of the College of Pharmacy, University of Washington, Seattle, also assisted in the matter by furnishing 21 small photographs depicting the progressive steps in obtaining and shipping the bark.

While steps were taken in April to install the exhibition series of the division on the south side of the gallery in the east hall of the arts and industries building, the exhibit was not sufficiently advanced at the close of the year to be open to visitors. The general subjects to be illustrated are: History of Medicine, Materia Medica, Pharmacy, and Sanitation and Public Hygiene, and they appear in the series in the order named. Three alcoves are given to the history of medicine. Into the cases of the first alcove have been placed the specimens which illustrate an historical development in the magic, psychic, physical, and physiological treatment of disease. The second alcove is made up of the collections relating to the history of Indian, Egyptian, Hebrew, Greek and Roman, and Chinese medicine. The history of medicine in America is presented pictorially in the next alcove in the form of biographical sketches and photographs of prominent medical men since the settlement at Jamestown.

Materia medica, materials used in medicine obtained from animal, vegetable, and chemical sources, is illustrated in the next three alcoves.

The last two alcoves on the south side, east end of east gallery, will be devoted to the history of pharmacy and modern medicinal forms. Of sanitation and public hygiene, a beginning was made by illustrating, at the eastern end of the gallery, the composition of the human body, the composition of milk and bread, a day's rations, and the utilization of food.

Considerable was done during the year in the way of examining and inventorying the medical collections comprising the study series, but this had to be put aside for the time being, as the installation of the exhibition series was of first importance. It was found that some of the materials from older collections had deteriorated to such an extent as to be worthless. While it is believed that all such can be replaced, a definite statement can not be made in advance of the completion of the inventory, work on which will be resumed as soon as possible.

Representatives of the Bureau of Chemistry, Department of Agriculture, have at various times examined and studied material in the division, and specimens of *Datura alba*, *Viola guatemalensis*, and

the seeds of four species of *Fevillea* were lent to Mr. W. E. Safford, of the department, for use in connection with his work.

Mineral technology.—The division of mineral technology received 33 accessions, comprising 287 items, during the year. Though larger in bulk, the value represented is distinctly inferior to that of the preceding year, the special activities of the division having of necessity been largely turned to war projects, at the expense of the routine.

The following are the most important acquisitions: A series of accessions from American coal products manufacturers, resulting from the entry of American industrial enterprise in this new field of endeavor. The exhibit comes to the Museum through the efforts of the Barrett Co., of New York City, to which company belongs the credit both of being the largest individual contributor to the series and of being instrumental in securing the donation of the rest. Special recognition is also due the National Aniline and Chemical Co., of Buffalo, N. Y., for its contributions of coal product dye-stuffs. From the National Lead Co., of New York City, was received a large sketch illustration depicting the sequence of operations connected with the manufacture of lead, together with certain additional features to the model of the lead manufacturing plant received from that company the previous year. Twenty-two colored art glassware specimens were donated by the Steuben Glass Co., of Corning, N. Y., and a panoramic model, 11 by 14 feet, showing the occurrence and mining of gold was constructed from Museum plans in Howell's Microcosm.

In assembling collections representative of mineral technology, attention has been focused throughout to providing comprehensive popular exhibits, and the collections thus far accumulated are wholly of this order. At the beginning of the year 18 groups were on display in the exhibition halls, comprising abrasives, asbestos, asphalt, cements, coal, copper, glass, gold, graphite, iron, lead, lime, mica, petroleum, plaster, salt, sulphur, and tin. Special needs for activity growing out of the war have drawn so heavily upon the resources of the small staff of the division that for the time being it seemed best to devote whatever was available in the way of opportunity for orthodox activity to the enhancement of what was already established, deferring for the present the various projects in mind for numerical expansion. Working along this line an exhibit has been added to the coal series, showing something of the scope of American enterprise in its great new field of industrial endeavor in the direction of coal product manufacture. The exhibit shows a 200-pound lump of bituminous coal with derivatives in the form of dyestuffs and other chemicals to the number of 233, now being prepared in this country in one or another of 25 responsible establishments. The series treat-

ing of gold has been enriched by the development of a large panoramic model measuring 11 by 14 feet, showing the occurrence and the various methods—lode mining, hydraulicing, dredging, panning, and the like—employed in winning the metal.

In the copper series notable progress is to be recorded, too, in the completion of the magnificent panoramic model of the Bingham Canyon mining operations in keeping with its inspiring magnitude of mountainous scope and setting. The lead series affords yet another important instance of progress during the year. The model designed to show the operations of lead manufacture, and in part placed on display upward of a year ago, has been completed and stands in the exhibition halls a miniature manufacturing plant complete in every detail of operation, in proportions of one-twelfth those of actual practice. Various supplementary features in this series, such as a wall panel on which are sketched the various operations of the plant in their sequence, a series of transparencies of the actual operations themselves, and various other features have also been under preparation during the year.

Five lines of investigation having a special bearing on the present emergency of war have been developed within the division in the course of the year, comprising fertilizer materials, sulphur, coal products, power, and petroleum. These are subjects, however, which have been under consideration for several years in connection with the assembling of exhibits. Thus the work has a twofold aspect, that of its emergency application in war, and that of its enduring application in connection with the normal activities of peace.

The work found its occasion in the effort to be of service in the war. In mobilizing the economic forces of production and filling in their gaps, the country has faced a task fully as necessary as that of effecting the requisite military organization, and equally as intricate. The difficulty in building up deficiencies as they become apparent lies in the complexity of interrelationship. This is especially true among the chemically conducted industries. In the first place there is the group relationship of progressive segregation, most notably instanced in the coal product series, wherein the isolation of any one product entails the work leading to the isolation of many others. Then comes the group relationship of recombination into usable form, as in the case of fertilizer manufacture, where an entirely different basis of interdependence is established drawing variously upon the other groups and linking them together. Thus it comes that to build up a deficiency in any one specific direction it commonly proves necessary to carry the work of reconstruction far afield.

This question of interrelationship, as applied to mineral derivatives, has been a subject of special study in the division from the time of its establishment, and it was felt from the outset that here

lay the chief opportunity to render service. Some two years ago, when the country's deficiency in fixed nitrogen came up for consideration, occasion was taken to point out¹ that a nitrogen situation as a thing apart and to itself did not and could not exist; that it was inextricably involved with the coal product situation and fertilizer situation, and that the only practicable remedy lay in giving due heed to this interrelationship. The course of action thus pointed to, as it proved, was the course of action finally adopted, more than a year later.

So it is with the work of mobilizing the various other chemically conducted industries on a war-time basis. The need of giving advance heed to this question was appreciated among our enemies, and Germany entered on the war prepared in this field fully as well as in the military branches. It was inadequately appreciated by those who eventually came to be our allies, however; and in the United States, up to the actual outbreak of hostilities, it was entirely disregarded as a national issue. Looming largest among the problems thus entailed are those presented by the industrial groups having to do with the fertilizer materials necessary to an adequacy of foodstuffs, and with the energy resources requisite to the work of manufacture. It was in the hope of contributing to the solution of these two basic problems that the investigations comprising fertilizer materials, sulphur, coal products, power, and petroleum were projected by the curator of mineral technology, Mr. Chester G. Gilbert. These resulted in the publication of a series of pamphlets during the year, as follows: "Fertilizers: An interpretation of the situation in the United States," and "Sulphur: An example of industrial independence," by Joseph E. Pogue; "Coal Products: An object lesson in resource administration," by Chester G. Gilbert; and "Coal: The resource and its full utilization," by Messrs. Gilbert and Pogue. Papers by these authors jointly on "Power: Its significance and needs," and "Petroleum: A resource interpretation," were also completed, though not published.

It is worthy of special note that these bulletins present information in process of accumulation some years before the first war cloud manifested itself. The whole purpose set for the division from its inception five years ago has been that of providing a demonstration of the important part played by mineral derivatives through the medium of chemically conducted industries, and of the need for a constructive economic policy formulated with a view to promoting their coordinated development. Year after year the needs in this direction have been emphasized. In a democracy results are attainable only through the education of the public opinion, and it is earnestly

¹ Sources of nitrogen compounds in the United States, by Chester G. Gilbert, Smithsonian Inst. Special Pub. No. 2421, June 30, 1916.

hoped that the National Museum will be in a position to continue to carry on this work of education, for which it is the proper vehicle. The war is now teaching this lesson in terms of bitter experience, but only in part. It does not teach the whole truth of the lesson to be learned, namely, that the country is as unprepared economically for peace as it was for war; and if we are left to learn this part of the lesson from the ensuing years of peace it will be through economic experiences as bitter as any in the application of war.

The accomplishments of the division in behalf of the country's enduring welfare have been greatly restricted by lack of funds, mainly required for technical assistants. The materials needed are not great; experience has shown that they can be secured by donation. It is hoped, however, that funds will be forthcoming for the requisite technical experts, since the possibilities of educational service in the task of reconstruction ahead for the country are inestimable. In view of the deplorable tendency toward duplication in the scientific work variously activated in the governmental departments, it is worthy of special note, in conclusion, that the purpose in the present connection is not that of initiating any new scientific or technical lines of work, but purely one of interpreting technical fact in popular form. As such the field of operations is not only of vital importance; it is peculiarly the function of the National Museum, and it is a fallow field practically neglected in the absence of the adequate facilities in the Museum for its cultivation.

DISTRIBUTION AND EXCHANGE OF SPECIMENS.

The distribution of duplicates, mainly to schools and colleges, for educational purposes aggregated over 8,000 specimens, properly classified and labeled. Of these 1,667 were contained in 8 regular sets of mollusks averaging 179 specimens each and 5 regular sets of fossil invertebrates of 47 specimens each. The balance of 6,507 specimens, comprised in 31 special sets, were principally fossils, minerals, ores, marine invertebrates, and objects of ethnology and archeology.

In making exchanges for additions to the collections, a total of 23,227 duplicate specimens was used. These consisted chiefly of plants, animals, fishes, marine invertebrates, fossils, rocks, ores and minerals, and ethnological and archeological objects.

Material sent out to specialists for study on behalf of the Museum and otherwise amounted to 11,695 specimens, of which 3,582 were botanical and 7,734 zoological.

NATIONAL GALLERY OF ART.

In the last report it was stated that the foundations of the building for the Freer collections were completed. This addition to the Smithsonian group, a granite structure 228 feet long, 185 feet deep, and 46

feet high, is being erected at the corner of Twelfth and B Streets SW., by the Smithsonian Institution at the expense of Mr. Charles L. Freer, and is to house the Freer collections, the most valuable art gift ever made by an individual to the Nation. Though some delays were encountered in procuring materials and labor, the construction of the building has proceeded during the year as rapidly as could be expected, considering the vast undertakings of the Government in constructional enterprises due to the war. By June 30, 1918, all of the exterior walls were erected to entablature height and about half of the architrave and frieze courses of the entablature were set. Four-fifths of the interior walls had risen to gallery ceiling height and all others were well advanced. The marble walls of the court were completed to about two-thirds of their ultimate height. The basement and first story floor construction was completed, the drainage system below the sub-basement floor finished, and 10 per cent of the heating and ventilating duct work in the subbasement installed. It was expected that this building would be completed by October, 1918, but owing to the scarcity of labor and the difficulty in procuring certain classes of material needed for the interior finish, the completion will be delayed for another year.

The permanent acquisitions to the National Gallery of Art consisted mainly of additions to Mr. Charles L. Freer's munificent gift of American and oriental art, and a bequest from Mrs. Mary Houston Eddy of Washington.

The increment to the Freer collections during the year aggregated 928 items, the American portion including 1 oil painting and 5 pastels by James McNeill Whistler, 4 oil paintings and 2 pastels by Dwight W. Tryon, and 2 oil paintings and 2 pastels by Thomas Wilmer Dewing, besides 1 oil painting each by Gari Melchers, Willard L. Metcalf, John S. Sargent, and George de Forest Brush. The oriental accessions consist of 159 paintings and 2 albums of paintings, 102 pieces of pottery, and about 645 miscellaneous objects of jade, wood, stone, glass, lacquer, jewelry, etc., besides valuable fabrics. These additions bring the number of items in the Freer collections to upwards of 6,200.

The bequest of Mrs. Mary Houston Eddy, through her executors, the American Security & Trust Co., of Washington, to be known as the "A. R. and M. H. Eddy Donation," comprises 12 paintings, 12 miniatures, 9 ivory carvings, a Limoges enamel, "Diana Pardoning Io," a marble bust by William Couper, representing Tennyson's "Princess," a bronze statue by Pio Welonski, Rome, 1885, representing a gladiator, and miscellaneous art objects, 140 items in all. The paintings are as follows:

Oils: Kittens, by Jul Adam; The Adieu, by Salv. Aly; Landscape with Cattle, by William Hart; Female Head, by G. Jacquet;

Ducks, by C. Jutz; Flowers, by Raoul M. Longpre; Arab Horsemen, by Ad. Schreyer; Female Head, by B. Semenowski.

Pastel: Girl's Head, by Fr. Dvorak.

Water colors: Figure of Moor, by Ascenzi; On the Grand Canal, Venice, by Gabrini; The Archer, by Tomba Roma.

To the Russian artist, Mr. Ossip Perelma, the Gallery is indebted for portraits in oil by himself of M. Boris Bakhmeteff, first ambassador to the United States from the Russian Republic, and of Mr. Frank B. Noyes, president of the Associated Press and editor of the Washington Star. A portrait of Vinnie Ream (Mrs. Hoxie), painted by G. P. A. Healy, Rome, during 1870, was presented by Brig. Gen. R. L. Hoxie, United States Army (retired); and a marble statue of Puck, executed by Harriet Hosmer in 1856, was presented by Mrs. George Merrill, of Washington.

Two miniatures by Isabey, 1811, one of Napoleon I and the other of Marie Louise, and two old English silver snuffboxes, were received through Mrs. E. Cuyler Wight, of Lander, Maryland, as a gift from the heirs of William Cost Johnson, Member of Congress from Maryland, 1833-1843.

From the Commission of Fine Arts were received by transfer two large plaster landscape models of the parking scheme proposed for the city of Washington by the commission appointed by the Senate Committee on the District of Columbia. The models were executed by G. C. Curtis in 1902.

The loans to the Gallery were as follows: From Mrs. George J. Parke, Norfolk, Virginia, four portraits—one of Mrs. Elliott, one of Mrs. John O'Donnell, her daughter, and one of Mary O'Donnell, her granddaughter, painted by Charles W. Peale about 1800, the fourth being a portrait of George Washington, painted by C. Polk in 1792; from Mrs. E. M. Chapman, of Washington, an oil portrait by Gilbert Stuart of Mrs. Henrietta Auchmuty, wife of Robert Nichols Auchmuty; from Miss Lucy Stuart Fitzhugh, of Washington, portraits by Sir Peter Lely of Arthur Spicer and of his wife, Mary Brockenbrough Spicer; from Dr. Edgar Thompson, Medical Inspector, United States Navy, an oil painting attributed to Cimabue, entitled "Don Giovanni Rilgas"; from Mr. Charles L. Glover of Washington, a panel (oil on wood), "The Annunciation," attributed to Fra Angelico; from Mr. Hobart Berrian (with the Expeditionary Forces in Europe), through Mr. De Lancey Gill, an oil painting "Salome with the Head of John the Baptist," artist undetermined; from the Rev. F. Ward Denys, of Washington, an oil painting, "Gathering Flowers," by E. Keyser, 1890; from the estate of Henry Ulke, through Mr. Titus Ulke, of Washington, two oil portraits, Ludwig van Beethoven, 1875, and Ulysses S. Grant, 1876,

by Henry Ulke; from Mrs. James Henry Moser, of Washington, a landscape in oil, "Clearing Up" in the Berkshires, by James Henry Moser; from Mrs. G. L. Hitchcock, of Washington, a collection of Capo di Monte porcelains, bronzes, etc., 20 specimens; from Mr. Edward Trenchard, of Babylon, New York, an oil painting, "Sea, Sand, and Solitude," by Edward Trenchard; from Mrs. G. B. Willis, Alexandria, Virginia, a water color, "The Spirit of the Sphinx," by Henry Bacon, done in Egypt, 1897; a bust in Carrara marble, being a copy by Luigi Guglielmi, of the head of the Antinous of the Capitoline Museum, Rome; and "Virginia Virgo," a bas relief in Carrara marble, by Sir Moses Ezekiel, Rome, 1897; from Mrs. Allen M. Sumner, Washington, District of Columbia, a representation in marble of the clasped hands of Dr. and Mrs. Allen M. Sumner, by John A. Jackson, sculptor, Florence, Italy, 1869; from Lieut. Commander W. W. Smyth, United States Navy, and Mrs. Smyth, an antique marble urn with decorative carvings, formerly owned by Stephen Girard; and from the Army Medical Museum, a painting of the proposed new building for the Army Medical Museum and Library, executed by members of the art department of that museum.

The exhibition of a large collection of paintings by Mr. Ossip Perelma continued over from the preceding year, and two other special loan exhibitions were held during the year. A collection of 99 lithographs and 9 etchings by Joseph Pennell, illustrating war activities and works in Great Britain and the United States was exhibited in the Gallery from November 1 to 24, 1917; the opening was inaugurated with a special view on the evening of the first. These prints reproduce a large portion of the artist's sketches made under Government auspices in the various factories, shipyards, and other establishments in the two countries. The catalogue issued for the occasion included an introduction and explanatory notes by Mr. Pennell.

During March, 1918, a series of architectural drawings by Charles Mason Remey, being preliminary designs displaying varying treatments in different styles of architecture of the proposed Bahai Temple to be built on the shore of Lake Michigan at Chicago, Illinois, were shown on special screens in the southern alcoves of the Gallery.

In making room for the Bureau of War Risk Insurance of the Treasury Department, the collection of drawings by eminent contemporary French artists presented to the people of the United States by the citizens of the French Republic, which had been on exhibition on screens in the north alcove of the Gallery, was taken down on June 10, 1918, and placed in storage. The rooms on the lower floor utilized for the exhibition of art works were placed at the disposal of the War Risk office in November, 1917, and, later

other rooms on the same floor devoted to storage were also relinquished.

As elsewhere stated, the natural history building is under normal conditions greatly overcrowded with the collections of its three departments, Biology, Geology, Anthropology, and of the Art Gallery. To-day nearly one-fourth of the available space is given over to art in its various forms. The need of considering the erection of a building exclusively for the National Gallery of Art is pressing, and should receive attention at the earliest possible moment. The Gallery has already failed to acquire many rich gifts of art works because of the impossibility of caring for them in the present buildings of the Smithsonian group, and other cities are being enriched at its expense. Treasures of art worth millions of dollars in value, well within its reach, have gone elsewhere because of its unpreparedness. To the national city is due reasonable attention to these matters on the part of the legislators of the Nation; it is apparent, however, that until the close of the war with Germany little can be hoped for in this direction.

Art works more than any other national possession typify advanced civilization, and the public demands means of acquiring and keeping and facilities for utilizing them. Most modern nations have made their capital cities principal centers of art development and art accumulation, and progress in this respect may well be regarded as an index of the degree of advancement of the people toward higher standards of enlightenment.

MISCELLANEOUS.

VISITORS.

The number of visitors to the natural history building during the year aggregated 306,003 for week days and on Sundays 95,097, being a daily average of 977 for the former and 1,828 for the latter. At the arts and industries building and the Smithsonian building, which are opened only on week days, the total attendance was 161,298 for the former and 67,224 for the latter, with a daily average of 515 and 214, respectively. The following tables show the attendance of visitors during each month of the past year and for each year since 1881, when the building now devoted to the arts and industries was first opened to the public:

Number of visitors during the year ending June 30, 1918.

Year and month.	Museum Buildings.		Smithsonian Building.	Year and month.	Museum Buildings.		Smithsonian Building.
	Arts and Industries.	Natural History.			Arts and Industries.	Natural History.	
1917.				1918.			
July.....	14,865	27,830	5,611	January.....	7,206	24,569	3,302
August.....	18,998	36,640	7,131	February.....	9,281	24,517	4,208
September.....	17,397	42,022	7,394	March.....	13,497	30,043	5,741
October.....	14,705	39,899	6,155	April.....	13,148	24,205	5,578
November.....	12,680	41,839	5,722	May.....	13,965	23,536	5,268
December.....	11,229	53,757	5,675	June.....	14,327	32,143	5,439
				Total.....	161,298	401,100	67,224

Number of visitors to the Museum and Smithsonian Buildings since 1881.

Year.	Museum Buildings.		Smithsonian Building.	Year.	Museum Buildings.		Smithsonian Building.
	Arts and Industries.	Natural History.			Arts and Industries.	Natural History.	
1881.....	150,000	.....	100,000	1900-1.....	216,556	.....	151,563
1882.....	167,455	.....	152,744	1901-2.....	173,888	.....	144,107
1883.....	202,188	.....	104,823	1902-3.....	315,307	.....	181,174
1884 (half year).....	97,661	.....	45,565	1903-4.....	220,778	.....	143,988
1884-85 (fiscal year).....	205,026	.....	105,963	1904-5.....	235,921	.....	149,380
1885-86.....	174,225	.....	88,960	1905-6.....	210,886	.....	149,661
1886-87.....	216,562	.....	98,552	1906-7.....	210,107	.....	153,591
1887-88.....	249,665	.....	102,863	1907-8.....	299,659	.....	237,182
1888-89.....	374,843	.....	149,618	1908-9.....	245,187	.....	198,064
1889-90.....	274,324	.....	120,894	1909-10.....	228,804	50,403	179,163
1890-91.....	286,426	.....	111,669	1910-11.....	207,010	151,112	167,085
1891-92.....	269,825	.....	114,817	1911-12.....	172,182	281,887	143,134
1892-93.....	319,930	.....	174,188	1912-13.....	173,858	319,806	142,420
1893-94.....	195,748	.....	103,910	1913-14.....	146,533	329,381	102,645
1894-95.....	201,744	.....	105,658	1914-15.....	133,202	321,712	40,324
1895-96.....	180,505	.....	103,650	1915-16.....	146,956	381,228	48,517
1896-97.....	229,606	.....	115,709	1916-17.....	161,700	407,025	86,335
1897-98.....	177,254	.....	99,273	1917-18.....	161,298	401,100	67,224
1898-99.....	192,471	.....	116,912	Total.....	8,050,730	2,643,654	4,734,492
1899-1900.....	225,440	.....	133,147				

PUBLICATIONS.

The publications of the year comprised 6 volumes and 40 separate papers. The former consisted of the annual report of the Museum for 1916; volume 51 of the Proceedings; and the following four Bulletins: No. 95, "The fishes of the west coast of Peru," by Barton Warren Evermann; No. 97, "The Grapsoid crabs of America," by Mary

J. Rathbun; No. 101, "The Columbian Institute for the promotion of arts and sciences. A Washington society of 1816-1838, which established a museum and botanic garden under Government patronage," by Richard Rathbun; and a very small edition, for office use, of the complete volume, No. 18, Contributions from the United States National Herbarium. Bulletin No. 39, Parts A and D, and Bulletin 67, entitled, respectively, "Directions for collecting birds," "Directions for collecting, preparing, and preserving birds' eggs and nests" and "Directions for collecting and preserving insects," were reprinted in small editions to enable the Museum to meet the constant demand for them.

Of the 40 papers issued in separate form 3 were parts of volume 1 of Bulletin 100, "Contributions to the biology of the Philippine Archipelago and adjacent regions," as follows: Part 1, "The Philippine land shells of the genus *Amphidromus*"; part 2, "Ascidians from the Philippines and adjacent waters"; and part 3, "Report upon the Scyphomedusae collected by the United States Bureau of Fisheries Steamer 'Albatross' in the Philippine Islands and Malay Archipelago." Four parts of Bulletin 102, "The mineral industries of the United States," were also issued, namely, part 1, "Coal products: An object lesson in resource administration"; part 2, "Fertilizers: An interpretation of the situation in the United States"; part 3, "Sulphur: An example of industrial independence"; and part 4, "Coal: The resource and its full utilization." Of the remaining separates 2 formed parts of volume 18 and 2 parts of volume 20, "Contributions from the United States National Herbarium," while 12 were from volume 53 and 16 from volume 54 of the Proceedings, as listed in the bibliography at the end of this report, and one was a catalogue entitled "Catalogue of an exhibition of lithographs of war work in Great Britain and the United States, by Joseph Pennell," descriptive of a collection exhibited in the National Gallery of Art November 1 to 24, 1917.

The distribution of volumes and separates to libraries and individuals on the regular mailing lists aggregated 65,000 copies, in addition to which some 10,300 copies of the publication of last and previous years were supplied in response to special applications.

Besides the Museum publications, many contributions based on material in its collections were printed by other bureaus of the Government and by private institutions, all of which are cited in the bibliography. Those issued by the Smithsonian Institution comprise the following, which appeared in the Miscellaneous Collections: "Cambrian geology and paleontology. IV. No. 3. Fauna of the Mount Whyte formation," by Charles D. Walcott; "New rodents from British East Africa," by N. Hollister; "A new river-dolphin from China," by Gerrit S. Miller, jr.; "The marine algae and marine

spermatophytes of the Tomas Barrera expedition to Cuba," by Marshall A. Howe; "Descriptions of two new birds from Haiti," by Charles W. Richmond, "Meliaceae Centrali Americanae et Panamenses," by G. de Candolle, and "Explorations and field-work of the Smithsonian Institution in 1917." In addition to these the Institution also published in its Annual Report for 1916 four papers based on Museum material, as follows: "Administration and activities of the Smithsonian Institution," by A. Howard Clark; "Pirates of the Deep—Stories of the squid and octopus," by Paul Bartsch; "The great dragon of Quirigua, Guatemala," by W. H. Holmes; "A prehistoric Mesa Verde pueblo and its people," by J. W. Fewkes, and a reprint of the article entitled "Theodore Nicholas Gill," by William H. Dall, which originally appeared in Biographical Memoirs of the National Academy of Sciences. As a special publication, the Institution also issued a finely illustrated paper by Frank Springer entitled "On the crinoid genus *Scyphocrinus* and its bulbous root *Camarocrinus*."

The editorial office, besides supervising the printing of the Museum publications, also has charge of all miscellaneous printing and binding.

LIBRARY.

The library of the Museum is assembled almost exclusively with reference to the working up of the collections, but owing to the exceptional diversity of these it embraces a wide range of subjects in the sciences and arts. The main library is housed in the natural history building, while the publications on the useful arts are provided for in the arts and industries building. Moreover, each of the divisions and principal offices has its own sectional library, consisting of the books relating wholly to its subject, which are withdrawn from the main branches and so distributed in order to facilitate the progress of work. The use of the library and its sections is not, however, restricted to members of the staff, being extended to all properly qualified persons, and this privilege is extensively availed of by the Government scientific bureaus and other establishments in Washington.

The need of the library of additional means for purchasing and binding is becoming more and more acute, especially as the scarcity of material, caused by war conditions, has resulted in the discontinuance of the receipt of a number of periodicals which had come previously as gifts or in exchange. There should be sufficient funds available for subscription to these periodicals.

The increment, largely obtained through gift and exchange, amounted to 6,162 volumes and 1,583 pamphlets and parts of volumes. There are now in the library 52,513 volumes and 84,495

pamphlets and unbound papers. There have been added through the Biltmore collection, presented by Mrs. George W. Vanderbilt, more than 2,000 volumes on botanical subjects, 50 of which are distinct editions of volumes not heretofore available. By transfer from the Hygienic Laboratory, 932 volumes and 2,072 pamphlets and periodicals on pharmaceutical subjects were received. Dr. William H. Dall added 237 titles to the library on mollusks, while among members of the staff and others to whom acknowledgments are due for gifts of publications are Dr. Charles D. Walcott, Dr. O. P. Hay, Dr. C. W. Richmond, Dr. W. H. Holmes, Mr. W. R. Maxon, Mr. G. C. Maynard, Mr. William Palmer, Dr. J. M. Flint, Mr. G. S. Miller, jr., Mr. B. H. Swales, Dr. Aleš Hrdlička, Mr. J. P. McLean, and Mr. R. G. Paine.

MEETINGS AND CONGRESSES.

The Washington Society of the Fine Arts, as during several years past, was granted the use of the auditorium for its three courses of lectures, which included: A members' course on fine arts, to be delivered on a Wednesday evening in each month from November 14 to March 13; a course on literature, to be delivered on a Thursday evening in each month from November 22 to March 21; and a course of illustrated lecture-recitals on "The modern orchestra," by Daniel Gregory Mason, to be delivered on a Saturday evening in each month from November 24 until March 23. Owing to the fact that part of the natural history building in which the auditorium is located had been turned over to the Bureau of War Risk Insurance for offices, some of the reservations were cancelled, and only the following lectures were delivered in the auditorium: "The Serbian sculptor—Mestrovic," by Miss Edith Chadwick, on November 14, and "Flemish art and the war," by Maurice W. Brockwell, on December 12, in the first course; "The novel of to-day," by William Lyon Phelps, on December 6, in the second course; and "The constitution of the orchestra and the suites of Bach and Handel," on November 24, and "The brass section of the orchestra," on December 15, in the music course.

Among the scientific societies that had in the previous years met regularly in one of the rooms on the foyer in the natural history building were the Anthropological Society of Washington, the District of Columbia Dental Society, and the Federal Photographic Society. These organizations had been granted reservations for the winter season, but as these were canceled early in October, the Anthropological Society was only able on October 2 to present an illustrated lecture on "Bohemia," by Dr. Aleš Hrdlička, in one of the committee rooms; and thereafter held its larger meetings in the auditorium, where, on October 16, an illustrated lecture on "Greece" was given by Dr. Mitchell Carroll; on November 6, a lecture on

"Belgium and the Belgians," with lantern slides, by Prof. James H. Gore; on November 20, a lecture on "Roumania," by George Julian Zolnay, illustrated with native music and by lantern slides; and on December 4, Prof. Amandus Johnson lectured on "Scandinavia," which was also illustrated by lantern slides. The Federal Photographic Society occupied the auditorium on July 9 and 10 with an exhibition of motion pictures by Prizma, Incorporated.

A "war meeting" of the American Public Health Association was held in the auditorium on October 18, 19, and 20, at which, in addition to addresses by Surg. Gens. Gorgas and Braisted and section conferences on health problems and opportunities of the war, other important papers on the war were read, some of which were illustrated with lantern slides. On the evening of October 18, a reception was given in the natural history building in honor of the members and guests of the association, on which occasion the first floor, including the art gallery and rotunda, was opened, and during the evening a section of the United States Marine Band was present.

The use of the auditorium was granted to the Medical Society of the District of Columbia for exercises to commemorate the centennial anniversary of the society. These were held during the afternoon of October 17, and four important addresses were delivered, which have since been collected into a commemorative volume.

As in other years, the auditorium was gladly placed at the disposal of the various departments for gatherings of scientific or technical interest. Conspicuous among these was its use on September 5 and 6 for a live-stock conference called by the Secretary of Agriculture and the Food Administrator to formulate plans for the production and conservation of the live-stock industry of the United States. The program included introductory remarks by the Secretary of Agriculture and the Food Administrator, also, addresses on "Financing," by W. P. G. Harding, governor of the Federal Reserve Board, and Herbert Quick, member of the Farm Loan Board, and on "Transportation," by Daniel Willard, chairman of the Transportation and Communication Advisory Commission, Council of National Defense. The remaining sections of the program included papers on the "Redistribution of live stock," "Increase in the production of live stock," "Marketing live stock," and "Emergency control of meats and dairy products under the direction of the Food Administrator."

A similar conference, but in the interest of fall wheat and rye planting, also called by the Secretary of Agriculture, was held in one of the committee rooms on August 15.

Among other meetings held under the auspices of the bureaus of the Department of Agriculture was the Eighth Annual Conference of States Agents on Home Demonstration Work in the South,

which was held in the auditorium during November 12-17, 19, and 20. In connection with this conference there were exhibits in the auditorium lobby, while in the auditorium itself there were displayed numerous diagrams as well as exhibits of canned vegetables and fruits. There was also a meeting of the Office of Home Economics on August 25 in one of the committee meeting rooms.

The Pathological Seminar of the Bureau of Plant Industry was held in the auditorium on December 6, and the Division of Horticulture of the Bureau of Plant Industry had the use of the auditorium on December 14 for a lecture on some phases of horticultural work in China by G. W. Groff.

On November 15 the women employees of the Department of Agriculture, presided over by Mrs. Houston, wife of the Secretary of Agriculture, met in the auditorium for a conference to discuss plans for participating in war activities.

Before the auditorium was turned over to the Bureau of War Risk Insurance arrangements were made by which the bureau had the use of it for the purpose of instructing and organizing the field parties of officers and enlisted men who were to be detailed to the various Army and Navy camps in this country or overseas, to attend to the details relating to the issuing of life insurance to the members of the military and naval forces of the United States. It was used for this work on November 7, 8, 21, 22, 27, 28, and 30, and on December 1, 3, 4, and 5.

The Signal Corps of the United States Army was granted the use of the auditorium on August 29 for an exhibition of lantern slides relating to army aeronautics, and again on September 17 for a lecture by Maj. Campbell of the Royal Flying Corps, at which both lantern slides and motion pictures were features of the entertainment.

The Post Office Department held a meeting of its employees in the auditorium on October 11 for the purpose of interesting those present in the Second Liberty Loan. The principal address was made by Alexander M. Dockery, Third Assistant Postmaster General, and he was followed by others who made short addresses. A section of the United States Marine Band was present and played during the meeting.

An important use of the auditorium was by the cooperating organizations of the United States Food Administration, which held morning and evening sessions in connection with the School of Instruction on August 28, 29, and 30. The sessions were opened on the morning of the 28th with a welcoming address by Dr. R. L. Wilbur, followed by one on the "Work of the food survey," by Carl Vrooman, Assistant Secretary of Agriculture, and one by W. A. Wheeler, of the Bureau of Markets, on a similar topic. Mr. Herbert Hoover then gave a description of the "World situation." The evening was de-

voted to an illustrated lecture on the "Development of wheat production in the United States," by Mark Carleton. The morning of August 29 was given over to an address on "Meat, the world's situation and the remedies," by E. C. Lasater, and "Milk needs of the Nation, possible solutions," by B. H. Rawl; while the evening was occupied with a lecture on "Fat needs in human nutrition," by E. V. McCollum. On August 30, there were addresses on "Transportation problems in relation to the use of local food supply," by Mr. Powell, and "Sugar: The world's need," by Carl L. Alsberg, and a lecture by Dr. Graham Lusk on "What to eat in war time."

The Bureau of Commercial Economics was granted permission to use the auditorium for the showing of some motion pictures of the Great War to Army officers on the evening of October 2. It was also used by the same bureau for a similar purpose on November 15, and again on November 21, when a series of Italian military views were exhibited for the benefit of the National Council of Defense.

In addition to the foregoing, the Potato Association of America received permission to hold its annual meeting in the auditorium on November 9 and 10. Sessions were held during the morning, the afternoon, and the evening.

Mention must also be made of the use of the auditorium by Mrs. Archibald Hopkins, for an assembly of ladies who met to discuss philanthropic measures. On October 12 the Women's Liberty Loan Committee convened in the auditorium and the sale of the second Liberty Loan bonds was discussed by Mrs. Karl Kellerman, who presided, Mrs. Ernest Thompson Seton, and Mrs. Antoinette Funk. The District of Columbia Chapter of the American Red Cross gathered in the auditorium on the evening of November 8 to listen to an illustrated address by W. E. Longfellow on the use of soldiers' first aid packet, land and water life saving, self-defense, etc.

An interesting meeting was held in the auditorium by the National Council of Women, who met on December 10. The program included a motion picture entitled "Mothers of France," as well as several addresses, and vocal selections with accompaniments on the piano. This organization also met on the evening of December 11, when, besides musical selections, there were addresses by Lord Eustace Percy of England, Lieut. Col. Edouard de Billy of France, Hon. William H. Taft, and Secretary McAdoo.

The Smithsonian Auxiliary of the District of Columbia Chapter of the Red Cross Society held four business meetings in one of the smaller committee rooms of the natural history building and three larger meetings in the auditorium.

In addition to the reception previously mentioned, under the auspices of the American Public Health Association, there was given in the natural history building a reception by Secretary Walcott on

the evening of November 1, with which the exhibition of lithographs illustrating war work, by Joseph Pennell, was opened. There were 108 views in all, of which 49 were in the British series and the remainder were representative of war work in the United States.

ORGANIZATION AND STAFF.

Mr. Theodore T. Belote, assistant curator of the division of history since 1909, was appointed curator on July 1, 1917; Dr. Joseph E. Pogue was temporarily made special assistant in the division of mineral technology on July 2, 1917, and on September 16, 1917, was appointed assistant curator; Mr. H. S. Bryant, clerk and for some years acting chief in the office of correspondence and documents, was on January 16, 1918, made chief of that office; Mr. Charles W. Gilmore, assistant curator of the section of vertebrate paleontology, was made associate curator on April 1, 1918; and Mr. Neil M. Judd, aid in ethnology, was advanced to the position of assistant curator in the department of anthropology on March 1, 1918. Mr. William M. N. Watkins was appointed assistant curator of the section of wood technology on January 26, 1918; Mr. Charles Whitebread, assistant curator of the division of medicine on April 2, 1918; Mr. Emery C. Leonard, aid in the division of plants on January 2, 1918; Mr. Edmund H. Gibson, custodian of Hemiptera of the division of insects, on November 26, 1917; Mr. B. Preston Clark, collaborator in the same division, on November 27, 1917; and Mr. Frank L. Hess, custodian of the collection of rare metals and rare earths, department of geology, on December 11, 1917. On August 23, 1917, Mr. Philip A. Means was made honorary collaborator in archeology for the year ending June 30, 1918; and the appointment of Mr. Alfred M. Collins, collaborator in zoology, was extended for one year from February 12, 1918.

Dr. Edgar T. Wherry, assistant curator of the division of mineralogy and petrology, resigned on August 15, 1917, to accept a position in the Bureau of Chemistry of the Department of Agriculture; Mr. Roger B. Maxwell, assistant curator of the section of wood technology, severed his connection with the Museum on September 10, 1917; Dr. Riley D. Moore, aid in the division of physical anthropology, resigned on June 20, 1918; and Mr. Edward S. Steele, editorial assistant, was transferred to the Department of Agriculture on June 7, 1918.

The following members of the staff were granted furloughs for indefinite periods, to enable them to enter military service: Mr. A. H. Pottinger, aid in the division of insects, on September 11, 1917; Mr. Joseph Donner, assistant curator of the division of medicine, on February 1, 1918; Mr. Emery C. Leonard, aid in the division of

plants, on June 1, 1918; and Mr. Neil M. Judd, assistant curator in the department of anthropology, on June 10, 1918. Other members of the force who entered war service were Mr. James B. Ettridge, Mr. J. Carson Robinson, and Mr. William W. Torbert, clerks; Mr. Bernard I. Jackson, preparator, Mr. Louis Goldberg and Mr. James R. Sirlouis, messengers; and Messrs. J. R. Baldel, Fred Cook, Grady C. Hedgecock, Joseph M. Owens, W. D. Patterson, R. E. Roper, F. E. Yunker, and Roland Wells, watchmen.

The custodian of musical instruments, Mr. Edwin H. Hawley, died on April 23, after several months' illness. He had been connected with this work since 1885, when he was interested in the subject of music by the late Dr. G. Brown Goode. Mr. Hawley was a most thorough and conscientious worker and had at the time of his death accumulated the greatest collection of data on musical instruments that exists. He was widely known and consulted by authorities on music everywhere.

THE MUSEUM STAFF.

[June 30, 1918.]

CHARLES D. WALCOTT, Secretary of the Smithsonian Institution, Keeper *ex officio*.

RICHARD RATHBUN, Assistant Secretary, in charge of the United States National Museum.

W. DEC. RAVENEL, Administrative Assistant.

SCIENTIFIC STAFF.

DEPARTMENT OF ANTHROPOLOGY:

William H. Holmes, Head Curator.

Division of Ethnology: Walter Hough, Curator; J. W. Fewkes, Collaborator; Arthur P. Rice, Collaborator.

Division of American Archeology: William H. Holmes, Curator; Neil M. Judd, Assistant Curator; E. P. Upham, Aid.

Division of Old World Archeology: I. M. Casanowicz, Assistant Curator.

Division of Physical Anthropology: Aleš Hrdlička, Curator.

Division of Mechanical Technology: George C. Maynard, Curator.

Division of Graphic Arts: Paul Brockett, Custodian; Ruel P. Tolman, Aid.

Section of Photography: Loring W. Beeson, Custodian.

Division of History: A. Howard Clark, Honorary Curator; T. T. Belote, Curator; Joseph B. Leavy, Philatelist.

Associates in Historic Archeology: Paul Haupt, Cyrus Adler.

Collaborator in Archeology: Philip A. Means.

DEPARTMENT OF BIOLOGY:

Leonhard Stejneger, Head Curator; James E. Benedict, Chief of Exhibits.

Division of Mammals: Gerrit S. Miller, jr., Curator.

Division of Birds: Robert Ridgway, Curator; Charles W. Richmond, Assistant Curator; J. H. Riley, Aid; Edward J. Brown, Collaborator.

Division of Reptiles and Batrachians: Leonhard Stejneger, Curator; R. G. Paine, Aid.

Division of Fishes: Barton A. Bean, Assistant Curator; Isaac Ginsburg, Aid.

Division of Insects: L. O. Howard, Honorary Curator; J. C. Crawford, Associate Curator; A. H. Pottinger, Aid; B. Preston Clark, Collaborator.

Section of Hymenoptera: J. C. Crawford, in charge.

Section of Myriapoda: O. F. Cook, Custodian.

Section of Diptera: Frederick Knab, Custodian.

Section of Muscoid Diptera: C. H. T. Townsend, Custodian.

Section of Coleoptera: E. A. Schwarz, Custodian.

Section of Lepidoptera: Harrison G. Dyar, Custodian.

Section of Orthoptera: A. N. Caudell, Custodian.

Section of Hemiptera: Edmund H. Gibson, Custodian.

Section of Forest Tree Beetles: A. D. Hopkins, Custodian.

Division of Marine Invertebrates: Paul Bartsch, Curator; William H. Dall, Honorary Curator of Mollusks; Waldo L. Schmitt, Assistant Curator; Austin H. Clark, Assistant Curator; William B. Marshall, Assistant Curator; C. R. Shoemaker, Aid; Pearl L. Boone, Aid; H. K. Harring, Custodian of the Rotatoria; Harriet Richardson Searle, Collaborator; Mary Breen, Collaborator.

Section of Helminthological Collections: C. W. Stiles, Custodian; B. H. Ransom, Assistant Custodian.

DEPARTMENT OF BIOLOGY.—Continued.

Division of Plants (National Herbarium): Frederick V. Coville, Honorary Curator; J. N. Rose, Associate Curator; W. R. Maxon, Associate Curator; P. C. Standley, Assistant Curator; Emery C. Leonard, Aid.
Section of Grasses: Albert S. Hitchcock, Custodian.
Section of Cryptogamic Collections: O. F. Cook, Assistant Curator.
Section of Higher Algae: W. T. Swingle, Custodian.
Section of Lower Fungi: D. G. Fairchild, Custodian.
Section of Diatoms: Albert Mann, Custodian.
Associates in Zoology: C. Hart Merriam, W. L. Abbott, Mary J. Rathbun.
Associate in Botany: John Donnell Smith.
Collaborator in Zoology: Alfred M. Collins.

DEPARTMENT OF GEOLOGY:

George P. Merrill, Head Curator.

Division of Physical and Chemical Geology (Systematic and Applied): George P. Merrill, Curator; James C. Martin, Assistant Curator.

Division of Mineralogy and Petrology: F. W. Clarke, Honorary Curator; W. T. Schaller, Custodian of Gems and Precious Stones; Frank L. Hess, Custodian of Rare Metals and Rare Earths.

Division of Paleontology: R. S. Bassler, Curator; Charles E. Resser, Assistant Curator.

Section of Invertebrate Paleontology: T. W. Stanton, Custodian of Mesozoic Collection; William H. Dall, Associate Curator of Cenozoic Collection; T. Wayland Vaughan, Custodian of Madreporarian Corals.

Section of Vertebrate Paleontology: Charles W. Gilmore, Associate Curator; James W. Gidley, Assistant Curator of Fossil Mammals.

Section of Paleobotany: David White, Associate Curator; F. H. Knowlton, Custodian of Mesozoic Plants; Eula D. McEwan, Aid.

Associates in Paleontology: Frank Springer, E. O. Ulrich.

Associate in Petrology: Joseph P. Iddings.

DIVISION OF TEXTILES:

Frederick L. Lewton, Curator.

Section of Wood Technology: William M. N. Watkins, Assistant Curator.

DIVISION OF MEDICINE:

Charles Whitebread, Assistant Curator.

Associate in Medicine: James M. Flint, United States Navy (Retired).

DIVISION OF MINERAL TECHNOLOGY:

Chester G. Gilbert, Curator; Joseph E. Pogue, Assistant Curator.

NATIONAL GALLERY OF ART:

William H. Holmes, Curator.

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LIST OF ACCESSIONS TO THE COLLECTIONS DURING THE FISCAL YEAR 1917-1918.

[Except when otherwise indicated, the specimens were presented or were transferred by
bureaus of the Government in accordance with law.]

ABBOTT, DR. WILLIAM L., Philadelphia, Pa.: Mammal, and a collection of miscellaneous bones from a cave, 112 birds, collection of birds' eggs and nests, 9 reptiles, 150 land shells, collection of insects, all from northwest Haiti (61403); bird skin and 1 bird in alcohol; 24 mammals, 297 bird skins, 27 alcoholic and skeletal specimens of birds, about 300 insects, including a myriapod, 11 specimens of plants, 50 specimens of crustaceans and mollusks, and 53 reptiles, all from Haiti (61549, 62320); set of 2 eggs of *Petrochelidon fulva* from Tortuga Island, near Haiti (61619); 30 mollusks from "Trou de Bon Dieu," Port de Paix, Haiti (62049); 767 skins and 32 skeletons of birds, 106 mammals, skins and skulls, 36 odd skulls, 3 skeletons, 8 sets of horns and 3 sets of jaws, 1 reptile skull, skull and portion of vertebral column of an eel, 1 human skull, and 402 ethnological specimens, all collected by Mr. H. C. Raven (61662). (See also under Mons. P. Guiller-mot, Lieut. Peter W. Hartman, and Capt. Charles G. Sinclair.)

ABRAMS, DR. LEROY. (See under Le-land Stanford Junior University.)

ACADEMY OF NATURAL SCIENCES, Philadelphia, Pa.: 322 specimens of plants principally from Pennsylvania (61409, exchange).

ADAMS, A. M., Perrysburg, Ohio: 1 specimen of eyed click beetle, *Alaus oculatus* (61334).

ADLER, DR. CYRUS, The Dropsie Col-lege, Philadelphia, Pa.: Abridged prayer book for Jews in the Army and Navy of the United States

ADLER, DR. CYRUS—Continued.

(61648); "Readings from the Holy Scriptures for Jewish Soldiers and Sailors" (62178).

AGRICULTURE, DEPARTMENT OF:

Bureau of Biological Survey: 40 specimens of plants from Connecti-cut, collected by Mr. I. N. Gabriel-son (61346); specimen of plant from Lower California (61523); specimen of plant from Arizona (61581); 114 specimens of plants from Georgia and Florida, collected by Mr. Francis Harper (61595); 8 specimens, 7 young and 1 adult, of slugs, *Areoli-maz columbianus*, from H. M. Laing, Portland, Oreg (61605); 3½ speci-mens of mollusks, *Anodonta wahla-metensis*, from the mouth of Bear River, Utah; also a crayfish, *Astacus gambelii*, from the same locality; specimen of an oak from Arkansas, all collected by Mr. Alex. Wetmore (61663, 62108, 62356); 2 amphipod crustaceans, *Pontoporeia* ? species, from Netarts, Oreg. (61749); 83 specimens of plants from Montana, collected by Mr. Vernon Bailey (61867, 61880, 61994); 5 copepods, parasitic on cut-throat trout, col-lected by Dr. A. K. Fisher (61882); 183 specimens of plants collected in Arizona by Mr. E. A. Goldman (61934); 3 fresh water sponges, *Trochospongilla leidy*, from Frank-fort, Ky. (61980); 28 skeletons, 3 skulls, 61 eggs, and 2 nests of birds from North America (61998); 3,265 specimens of insects (62064); 66 specimens of plants, 4 reptiles, and 12 amphibians, collected by Mr. A. H.

AGRICULTURE, DEPARTMENT OF—Contd.

Howell in Florida (62279, 62335); 40 mollusks and a crayfish collected in southern Florida, and 6 millipeds from Lake Okeechobee, also collected by Mr. Howell (62302); 941 specimens of plants from Minnesota and North Dakota (62292); about 75 specimens of wasps from Higley, Ariz. (62369); a collection of 9 frogs, 4 salamanders, and 2 lizards collected in France by Mr. Remington Kellogg (62389); partial skeleton of a brown pelican, *Pelecanus occidentalis* (62420); 35 specimens, 4 species, of mollusks, and 22 specimens, 7 species, of crustaceans from various localities (62421); 2 eggs of chuck-will's widow, *Antrostomus carolinensis*, from Florida (62444); 416 specimens of reptiles and batrachians (62569). (See also under C. A. Mosler, and Dr. A. L. Herrera.)

Bureau of Chemistry: 10 specimens of cacti (61638); 4 samples of cinchona bark from Ecuador, 12 samples of cinchona bark from the Netherlands Indies, and 2 samples of aloes from Curaçao, West Indies (62584); 14 samples of edible oils, and 7 samples of dehydrated food products (62586).

Bureau of Entomology: 34 specimens of mollusks, taken on sugar cane at Harlington, Tex., 21 representing the species *Succinea luteola*, 4 *praticolletta berlandieriana*, and 9 *Bulimulus alternata mariae*, all collected by Mr. G. N. Wolcott (61350, 61404); 6 specimens of mollusks, *Rumina decollata*, collected by Mr. H. G. H. Weinert, in San Antonio, Tex. (61556); 9 specimens of mollusks, *Agriolimnaea agrestis*, collected by Mr. H. J. Ryan at El Monte, Cal. (62112); 4 isopods collected in quarantine at Washington, D. C., in soil from Brazil (62489); about 1,500 muscoid Diptera and other insects, with 100 dissections of muscoidea from Franconia, N. H., collected by Dr. C. H. T. Townsend (62066).

AGRICULTURE, DEPARTMENT OF—Contd.

Federal Horticultural Board: Isopod crustacean, taken from nursery stock imported from Holland (62306).

Forest Service: 3 specimens of bryozoans, from a large cold-water spring in the Crater National Forest, Oreg., collected by Mr. E. S. Kerby, forest ranger (61604).

Bureau of Plant Industry: 6369 specimens of grasses (61309, 61313, 61393, 62200, 62544); plant, and specimen of cactus, from New Mexico (61314, 62271); 50 specimens of plants from Kansas (61486); specimen of plant from Louisiana (61582); seeds of *Ipomoea fistulosa* (61609); 382 specimens of plants collected in the Hawaiian Islands by Mr. A. S. Hitchcock (61720, 61985, 62093, 62194); 2 specimens of plants from Texas (61738); 358 specimens of plants from the District of Columbia and vicinity collected by Mr. Hitchcock (62079, 62187); 9 specimens of plants from Alaska (61739); 2 specimens of plants from Canada (62449); 266 specimens of plants collected in Haiti by Messrs. O. F. Cook, C. S. Scofield, and C. B. Doyle (61771); specimen of plant cultivated at Arlington, Va. (61782); 41 specimens of plants from Rhode Island collected by Perley Spaulding (61824); 2 specimens of plants; 33 specimens of plants and 53 photographs of plants (61881, 61886); type specimens of a plant, *Melilotus alba annua* (61993); 2 specimens of a cultivated plant, *Erlangea* (61995); specimen of plant from Porto Rico (61932); specimen of hepatic from Dominica (61966); 7 specimens of plants from Guatemala (61972, 62046); specimen of plant from Jamaica (61993); 506 specimens of plants, including 102 from Arizona, collected by Mr. W. W. Eggleston (62113, 62339); specimen of plant from California collected by Mr. G. P. Van Eseltine (62154); 16 specimens of plants collected in Texas and New Mexico by Mr. E. O. Wootton (62181, 62362, 62381); specimen of plant

AGRICULTURE, DEPARTMENT OF—Contd.
from British Columbia (62204); living specimen of plant from California (62298); 50 specimens of Hawaiian algae (62441); 100+shells collected at Salton Sea, California, by Mr. H. L. Shantz, and 13 specimens of living cacti collected by him (62341, 62474); specimen of fern from Oregon (62538); 27 samples of soy beans, 2 soy bean plants, 2 wax models of dasheens, sample of dried dasheens, 18 samples of corn, and a sample of chuño (62583); 7 mollusks from near Naranga, Fla., and 50+ mollusks from near Miami, Fla. (61424); 21 mollusks collected in Hupeh Province, China, also a lizard from Hankow, China, collected by Mr. Frank N. Meyer (61758, 61889); 160 specimens, 25 species, of mollusks from tidewash, Kawaikapu, Motokia, Hawaiian Islands, collected by Mr. W. A. Bryan (62373).

States Relations Service, Office of Home Demonstration, North and West: 100 prize jars of canned food products put up by boys and girls in State contests of club work (62591, loan).

AITKIN, Miss HELEN J., Brooklyn, N. Y. (through Dr. W. H. Dall): 14 specimens, 2 species, of land shells from Bergen Beach woods, Long Island, New York (62211).

ALABAMA, GEOLOGICAL SURVEY OF, University, Ala. (through Prof. Eugene A. Smith, State Geologist): Specimens of plant from Alabama (62549, exchange).

ALASKA PACKERS ASSOCIATION, THE, San Francisco, Cal. (through John N. Cobb, superintendent): 5 specimens of Alaskan black fish collected in the summer of 1917 in a small pond near Nushagak Bay, Alaska (61674).

ALGER, Mrs. RUSSELL A., The Hedges, Grosse Pointe, Mich. (through Mrs. Henry D. Sheldon): Dress worn by Mrs. Annette Henry Alger, wife of Russell A. Alger, Secretary of War, 1897-1899, and U. S. Senator from Michigan, 1903-1907 (62295).

AMERICAN MUSEUM OF NATURAL HISTORY, New York City: An 826-gram specimen of the Burkett, Coleman County, Tex., meteoric iron (62387, exchange).

AMERICAN PROPELLER & MANUFACTURING Co., Baltimore, Md. (through R. B. Maxwell, chief inspector): 1 standard, two-blade, quartered oak, aerial propeller, together with the seven parts of the propeller before being assembled, and the rough assembled block showing one side of the propeller after rough duplicating (61909); small mahogany and black cherry aeroplane impeller for furnishing power for the generation of electric energy (62529).

AMERICAN SECURITY & TRUST Co., THE. (See under Mrs. Mary Houston Eddy.)

ANDERSON, EDWARD J., New Orleans, La.: A flint spearhead found on the prairie in southern Texas by Mr. Andrew Courtnik Lemon (61647).

ANDREWS, Miss E. F., Rome, Ga.: 11 specimens of plants, *Crataegus*, from Georgia (61522).

ANHYDROUS FOOD PRODUCTS Co., Chicago, Ill.: 31 specimens of "Caloricured" food products (62130).

APOLLINAIRE-MARIE, Brother, Bogota, Colombia: 87 specimens of plants from Colombia (62409).

ARBIB, Cavaliere SALVATORE (through B. Harvey Carroll, jr., American consul, Venice, Italy): Collection of Venetian glass miniature portraits, pictures of flowers, and other artistic designs by Jacopo Franchini, a former glassworker from Murano, near Venice, Italy, made about 1848-1850 (61756).

ARCHIBALD, Dr. F. M., Mahnomen, Minn. (through Miss Frances Densmore): A septarian nodule of clay-iron-stone (61804).

ARMOUR & Co., Chicago, Ill.: 20 specimens of raw glands and glandular tissues obtained from slaughtered food animals, and 46 specimens of organotherapeutic products (62136); 2 specimens of raw glands and gland-

ARMOUR & Co.—Continued.

- dular tissues and 4 specimens of organotherapeutic products (62374).
- ARMSTRONG CORK Co., Pittsburgh, Pa.: Colored transparency 20 inches by 24 inches, of a cork oak tree (61335).
- ARSÈNE, Brother G., Baltimore, Md.: 2 specimens of plants from Mexico (61646).
- ARTHUR, Dr. J. C., Purdue University, Lafayette, Ind.: Specimen of a rust from New Mexico (61307).
- ASHE, W. W., Washington, D. C.: Specimen of plant from Georgia (62468).
- ATOLIA MINING Co., San Francisco, Cal. (through Messrs. F. W. Bradley and F. L. Hess): An exceptionally large and fine specimen of tungsten ore (scheelite) (62019).
- BACON PECAN Co., THE G. M., DeWitt, Ga.: Worm *Chordodes puerilis*, from DeWitt, Georgia (61472).
- BAILEY, L. H., Ithaca, N. Y.: 41 specimens of plants from China and Haiti (61911, 61916, 62104); 5 specimens of plants from Haiti and China (62007, exchange).
- BAILEY, VERNON. (See under Howard Lacey.)
- BAKER, Prof. C. F., University of the Philippines, Los Banos, P. I.: 47 specimens of Orthoptera, grasshoppers, etc., representing 25 species (62426, exchange).
- BAKER, Dr. F. H., Richmond, Victoria, Australia: Specimens of 10 species of scale insects (61667); insects and 12 specimens of shells from Australia (62392, exchange).
- BAKER, HENRY D., American Consul, Trinidad, West Indies: Snake from Trinidad (62357).
- BALGORD, P., Wheaton, Mont. (in part through Interior Department, U. S. Geological Survey): A partial skeleton of a Cretaceous plesiosaur from the Musselshell Valley, Montana (62199).
- BALL, C. R., U. S. Department of Agriculture, Washington, D. C.: 11 specimens of plants (62081).
- BALTIMORE PEARL HOMINY Co., Baltimore, Md.: 18 samples of corn products (61870).
- BARBOUR, Prof. ERWIN H., Care, University of Nebraska, Lincoln, Nebr.: 12 specimens of mollusks from the alkali lakes, 8 miles west of Bridgeport, Morrill County, Nebr. (61611).
- BARLOW, BURT E., Coldwater, Mich.: A collection of United States and foreign specie and paper currency (82 specimens); a British revenue stamp of the Colonial period, and a lady's parasol and a gentleman's riding whip of about 1864 (62011).
- BARLOW, L. C., Deming, N. Mex. (through Interior Department, U. S. Geological Survey): A specimen of molybdenite from the mine of George Fast, near La Dura, Sonora, Mexico (62159).
- BARNES, P. T. (See under Pennsylvania Department of Agriculture.)
- BARNETT, Maj. Gen. Commandant GEORGE, U. S. M. C. (See under U. S. Marine Corps.)
- BARRETT Co., THE, New York City: 51 specimens of coal products (61682). (See also under The Bayer Co. of America; Dow Chemical Co.; E. I. Du Pont De Nemours & Co.; Elmer & Amend; Geisenheimer and Co.; General Bakelite Co.; General Chemical Co.; Herman & Herman; Joseph Dixon Crucible Co.; Marden, Orth & Hastings Co.; Merck & Co.; Monsanto Chemical Co.; National Aniline & Chemical Co.; Organic Salt & Acid Co.; Powers, Weightman & Rosengarten; Roessler & Hasslachner Chemical Co.; Semet-Solvay Co.; Transatlantic Chemical Co.; E. M. & F. Waldo; Wilckes, Martin & Wilckes.)
- BARRETT, Dr. O. W., U. S. Department of Agriculture, Washington, D. C.: Specimen of lizard from Nicaragua (62250); 12 negatives of British East African and Philippine natives (62367).
- BARRETT, Dr. O. W., U. S. Department of Agriculture, Washington, D. C., and Mrs. BARRETT: Image of painted

- BARRETT, Dr. O. W.—Continued.
wood-fetish used by medicine man of San Blas Indians, Panama (62400, loan).
- BATES, Rev. J. M., Red Cloud, Nebr.: 2 specimens of plants from Nebraska (62278).
- BAUMANN, GUSTAVE, Wyoming, N. Y.: 4 original wood cut blocks, with a set of progressive proofs (7 prints) from them and 6 prints in color from electrotypes of wood cut blocks (62172).
- BAYER Co., THE (Inc.), New York City (through The Barrett Co.): Specimen of coal product—Acetyl Salicylic acid (61686).
- BEADLE, C. D., Biltmore, N. C.: 20 specimens of plants, *Crataegus* (61950).
- BEAN, B. A., U. S. National Museum: Red bat, *Nycteris borealis*, alcoholic (62304).
- BEAN, Dr. ROBERT BENNETT. (See under Edward D. Tayloe.)
- BELOTE, THEODORE T., U. S. National Museum: 5 United States bronze medals issued 1899–1913 (61899).
- BEMENT, C. S., Philadelphia, Pa. (through Dr. F. W. Clarke): 5 specimens of minerals from Franklin Furnace, New Jersey (61727); 2 free crystals of scheelite, a specimen of chalcopyrite with attached crystals of scheelite, and a fine, large group of manganosite crystals (61842); 11 specimens of minerals (62315).
- BENCOMO, CELESTINO, chargé d'affaires de Cuba, Port au Prince, Haiti: 12 specimens of reptiles and batrachians from Haiti (61477).
- BENEDICT, Dr. J. E., U. S. National Museum: Pine mouse *Pitymys pine-torum*, alcoholic (61968).
- BENEDICT, J. E., jr., Woodside, Md.: 16 specimens of salamanders from Jefferson County, W. Va. (61576); specimen of snake, *Lampropeltis triangulum*, and 8 specimens of birds from Maryland (62415, 62486); specimen of snake from Occoquan Creek, Va. (62471).
- BENTHE, HENRY, care E. C. Sargent, Ruso, N. Dak.: A clay-iron-stone concretion (61947).
- BENZOL PRODUCTS Co., Marcus Hook, Pa.: 1 specimen each of azobenzol, nitrobenzol, aniline, and toluidine (61875).
- BERNADOU, Mrs. FLORENCE W. (through Eliza A. Reath, executrix, Philadelphia, Pa.): 2 bronze vases presented to Ensign (afterwards Commander) John B. Bernadou, U. S. Navy, by the Government of Japan in recognition of the services rendered by him to the Japanese citizens at the outbreak at Seoul, Korea, in December, 1884, bequeathed to the National Museum by his widow (61681, bequest).
- BERRIAN, HOBART, Care War Department (through DeLancey Gill, Bureau of American Ethnology): Oil painting entitled "Salome with the head of John the Baptist," artist undetermined (62227, loan).
- BERRY, Prof. E. W., Johns Hopkins University, Baltimore, Md.: 176 specimens of fossil plants from the Tertiary rocks of Bolivia (61355); a small collection of Miocene plants from Peru (62128). (See also under Prof. E. C. Case.)
- BESSEY, Prof. E. A. (See under Michigan Agricultural College.)
- BETHEL, ELLSWORTH, Denver, Colo.: 12 specimens of plants from Colorado (61954, 62201, 62256); 27 specimens of plants from California (62316, 62347, 62410).
- BEUTENMUELLER, WILLIAM, Bronx, New York City: Specimens of cynipids (62419, exchange).
- BIBLE, HOWARD W., Philadelphia, Pa.: Blanket in colors, Patagonian Indians, South America, and a shaggy white blanket, Navaho Indians, New Mexico (62228); small bayetta blanket, Navaho Indians, New Mexico (62288, loan).
- BILLINGTON, C., Detroit, Mich.: 2 specimens of plants (62352).

- BIRNIE, Rev. DOUGLAS PUTNAM, Washington, D. C.: A stone idol from the Hawaiian Islands (62309).
- BISPHAM, Miss SOPHY HEBERTON (through Mrs. Silas Casey, Washington, D. C.): A satin vest worn by Henry Foxall Heberton, of Philadelphia, on the occasion of his marriage, October 28, 1841 (61319, loan).
- BLAKE, J. HENRY, West Somerville, Mass.: 15 bivalve mollusks from Provincetown Harbor, Provincetown, Mass. (61759).
- BODKIN, GILBERT E., Georgetown, Demerara, British Guiana: 17 specimens, 4 species, of nematodes and trematodes, parasitic in rats, from Georgetown, Demerara, British Guiana (61316); 2 ship worms, mollusks, taken from the timbers of a schooner plying between Barbados and British Guiana, December, 1917 (62061).
- BOGGS, Mrs. THOMAS KELLY, West Wind, Haines Falls, N. Y.: Ivory flute with silver mountings of the period of about 1812 (61805).
- BOOY, THEODOR DE (See under Museum of the American Indian, Heye Foundation).
- BOSTON SOCIETY OF NATURAL HISTORY, Boston, Mass.: 2,300+specimens of crustaceans, including 2 type specimens; also 70+specimens of mollusks from various localities (62027, exchange).
- BOWIE, G. D., Amarillo, Tex. (through W. T. Lee): 22 specimens of aragonite from Amarillo, Tex. (62482).
- BRADLEY, F. W. (See under Atolia Mining Co.)
- BRADY, Miss REGINA M. (See under Master Edward J. Collett.)
- BRAECKLEIN, J. G., Kansas City, Kans.: 83 flint implements from Boone and Warren Counties, Mo. (62071, exchange); 4 imperfect human skulls, a few fragmentary bones, and fragments of modern pueblo pottery; also a small collection of fragmentary mastodon bones and teeth (62141); stone implements and other objects from mounds and various localities in the United States (21 specimens), 2 human lower jaws from Illinois, and a trilobite from Sweden (62259).
- BRAENDLE, FREDERICK J., Washington, D. C.: Rosary of Kentucky coffee beans, *Gymnocladus dioica* (62413).
- BREWER, HENRY. (See under Winchester Repeating Arms Co.)
- BRICE, JAMES L., Nasel, Wash.: 5 concretions (61751).
- BRIGHAM, EDWARD M., Curator of Museum, Battle Creek Public Schools, Battle Creek, Mich.: Fragment of a drift boulder coated with gypsum, a drift boulder coated with dentrites, and a photograph of saber-tooth tiger mount (62165).
- BRIGHAM, Dr. GERTRUDE R., Smithsonian Institution: Skin and skull of a guinea pig, *Cavia* (62267).
- BRIMLEY, C. S., Raleigh, N. C.: Specimen of turtle from Florida (62499).
- BRIND, W. L., New York City: Specimen of fish, *Thorichthys helleri*, taken in Yucatan (61409); 11 fishes, comprising 2 specimens of *Callichthys callichthys* from Brazil, 7 specimens of *Thorichthys helleri* from Yucatan, 1 specimen of *Phalloptychus januaris* from Brazil, and 1 specimen of *Barbus semifasiolatus* from India (61528); 9 specimens of fishes, namely, 5 specimens of *Scatophagus argus*, 2 of *Therapon jarbua*, 1 of *Tetraodon fluviatilis*, and 1 very young (61860).
- BRISTOW, JOSEPH Q., Newington, Va.: 11 marine shells and 2 seeds without locality (61956).
- BRISTOW, Mrs. ROSAMOND I., Newington, Va.: 74 eggs of North American birds (61607).
- BRITISH MUSEUM (NATURAL HISTORY). (See under London, England.)
- BRITTON, Dr. N. L., New York Botanical Garden, Bronx Park, New York City: 50 specimens of living cacti, 150 herbarium specimens (61834).
- BROADWAY, W. E., Horticultural Club, Port of Spain, Trinidad: Specimen of plant from Trinidad (62186); 7 specimens of plants from Barbados (62375, 62408).

BROCKETT, PAUL, Smithsonian Institution: 1 poster (61857).

BRODIE, WALTER M., Washington, D. C.: 14 objects of ancient art from Mexico (62144, loan).

BROWN, A. J., Sulphur City, Ark.: 13 mollusks, *Polygyra labrosa fimbriata*, from Sulphur City, Ark., type locality (62566).

BROWN, BENJAMIN, U. S. National Museum: A Mexican spur of the early part of the nineteenth century (61735).

BROWN, EDWARD J., Los Angeles, Cal.: 75 birds and 20 trunk skeletons of birds from California (61900).

BROWN, O. H., Cape May, N. J. (through Dr. Edgar T. Wherry): Specimen of plant, *Utricularia virgatula*, from New Jersey (61863).

BROWNING, JOHN A., Washington, D. C.: 7 birds from Washington, D. C. (61590, 61656).

BRUMLY, ROBERT H., jr., Ancon, Canal Zone: Lantern fly (61444).

BRUNSWICK-BALKE-COLLENDER CO., THE, Chicago, Ill.: Fancy wood billiard cue in the rough, showing the various stages of manufacture, and 8 small samples of the various kinds of wood used in its manufacture (62582).

BRYAN, MAJ. HARRY S., Phoenix, Ariz.: 30 specimens of vanadinite and descolzite from mines near Kelvin, Pinal County, Ariz., and a photograph of the mines (62122); fragments of Bokhara cut velvet of the 14th century; of brocades of the 17th and 18th centuries, and of gold brocade of the 18th century; drapery worn at a ball given to Juarez, 1868 (62127); Mexican silver 2-peso piece issued in 1914 by authority of Gen. Zapata (62143, loan).

BUCHANAN, ROBERDEAU, Washington, D. C. (through Mrs. Roberdeau Buchanan): A sword with scabbard and a pair of flintlock pistols, owned during the War of the Revolution by Brig. Gen. Daniel Roberdeau, Pennsylvania Militia (1727-1795); a spyglass, 2 wooden flutes,

BUCHANAN, ROBERDEAU—Contd.

and a steel tape measure, owned by Bvt. Lieut. Col. Isaac Roberdeau, U. S. Topographical Engineers (1763-1829); and a branding iron inscribed "Roberdeau" (61493, loan).

BUSCK, AUGUST, U. S. Department of Agriculture, Washington, D. C.: Snake, *Heterodon nasicus kennerlyi*, from Mexico (61829); 200+fresh-water mollusks from Mexico, collected by Mr. Busck (62192); turtle shell, a lizard, and a snake from Mexico, a salamander from Maryland, and a fish from the West Indies or Panama (62487).

BUSHNELL, MRS. BELLE, Washington, D. C.: 14 needlecases, pin and needle cushions, reels, etc., of vegetable ivory and bone, used by ladies of the period of about 1860 (61816).

BUSHNELL, D. I., jr., Washington, D. C.: Series of 6 specimens showing construction and material of an osier basket from Louisa County, Va. (61494); a double-grooved hatchet of gray stone found on the low ground of the Mattaponi River, near Guinea, Caroline County, Va.; also sections of painted buffalo skin collected among the Sioux Indians of Upper Missouri by John Evans, geologist, about 1848 (61724); a wooden spice box of the Colonial period (61763); 1 cross and 1 ingot of trade copper from Equatorial Africa (61775); a cowhorn spoon, a tawed goatskin, and 2 burnt-clay pipes from the Choctaw Indians, Bayou Lacombe, St. Tammany Parish, La. (61814); candle from the hold of the wreck of the blockade runner *Beauregard*, 1863 (62059); fragments of pottery, etc., found on the south shore of Lake Pontchartrain, near New Orleans, La., by the donor some years ago (62245). (See also under Mrs. Walter Reed.)

BUTLER, MISS FLORENCE, Washington, D. C.: 11 Egyptian terra cotta figurines and 10 specimens of African ethnologica (61818).

- BUTTON, FRED L., Oakland, Cal.: 12 specimens of mollusks, *Caecum*, from Panama, including the type of *Caecum* (*Anellum*) *buttoni* (61530).
- BYRD, Dr. H., Princeton, Fla. (through W. E. Safford): Rattlesnake egg from Florida (62221).
- CADLE, CHARLES F., Muscatine, Iowa: Flint lock operated by clockwork for firing an explosive (61440).
- CALIFORNIA ACADEMY OF SCIENCES, San Francisco, Cal. (through Miss Alice Eastwood): 887 specimens of plants from California (61484, 61792, 62383); specimen of plant from Alaska (61598); 921 specimens of plants from Galapagos Islands (61658); 174 specimens of plants from California and Arizona (61802); 289 specimens of plants from California and Arizona (61903). Exchange.
- CALIFORNIA REDWOOD ASSOCIATION, San Francisco, Cal.: 5 unmounted photographs of the California redwood trees (61389); 14 six-foot specimens of redwood boards showing various finishes, 1 redwood newel post, 3 redwood balusters, and 2 redwood table legs (62588).
- CALIFORNIA, UNIVERSITY OF, Berkeley, Cal. (through Prof. H. M. Hall): Specimen of fern, *Cheilanthes feeti*, from California (62505, exchange); 15 specimens of Orthoptera (62077); 1 microscopic slide of the protozoan, *Crithidia euryopthalmi* (cotype) taken from *Euryopthalmus convivus* (host) at San Francisco, Cal. (61559).
- CALVERT, Mrs. FINLAY H., Washington, D. C. (through Mrs. R. G. Hoes): A collection of dolls' clothes (9 pieces) (61571).
- CAMP, R. D., Brownsville, Tex.: 260 specimens, 4 species, of mollusks from Texas (61919).
- CANADA, GEOLOGICAL SURVEY OF, Ottawa, Canada: Specimen of plant from Canada (61631); 21 lantern slides of views in the Belly River and Edmonton formations of Red Deer River, Alberta, Canada (61784); 67 specimens of plants from Canada and CANADA, GEOLOGICAL SURVEY OF—Con. Alaska (62082): through James M. Macoun, 289 specimens of plants from Canada and Alaska (62163, 62020, 62185, 62239, 62314). Exchange. (See also under Dominion Commission of Fisheries.)
- CANFIELD, DAVID, Thompson, Pa.: Pupa of a sphinx-moth, probably representing the species *Protoparce sexta* (61927).
- CARHART, MACY, Keyport, N. J.: 4 specimens of plants, *Lycopodium*, from New Jersey (61332, exchange).
- CARLIN, GEORGE B., Alexandria, Va.: Double-headed duckling (61904).
- CARNEGIE INSTITUTION OF WASHINGTON, Washington, D. C.: Specimen of plant, *Selaginella*, from Arizona (61655); (through Dr. Forrest Shreve, Tucson, Ariz.) 115 specimens of plants from Arizona (61382, 61744); (through Dr. J. Arthur Harris, Cold Spring Harbor, N. Y.) 163 specimens of plants from Jamaica and 65 from Virginia (61526, 61599).
- CARNEGIE MUSEUM, Pittsburgh, Pa.: 261 specimens, 80 species, of fishes from western Colombia (61489, exchange).
- CARR, Mrs. EMMA, Laurel, Md.: Specimen of Cooper's hawk, *Accipiter cooperi*, from Maryland (61612).
- CARR, J. C., care L. E. Daniels, Rolling Prairie, Ind.: The reverses of 2 type specimens of fossil insects (61584).
- CARR, WALTER T., Laurel, Md.: Great horned owl, *Bubo virginianus*, from Maryland (62446).
- CARROLL, B. HARVEY, jr., American consul, Venice, Italy (through Department of State): Sample of Venetian handmade bead (61755). (See also under Cavaliere Salvatore Arbib.)
- CARTER, Gen. W. H., U. S. Army, Washington, D. C.: 3 guns, 1 pistol, and ethnological specimens (62467).
- CASE, Prof. E. C., University of Michigan, Ann Arbor, Mich. (through Prof. E. W. Berry): 28 specimens, including figured types, of fossil plants from Beaver County, Oklahoma (61803).

- CASEY, MRS. SILAS. (See under Miss Sophy Heberton Bispham.)
- CASEY, MISS SOPHY PEARCE, Washington, D. C.: 2 Chilkat baskets, Alaska (61418, loan).
- CEARA, BRAZIL, MUSEU ROCHA (through Señor Dias da Rocha, director): 31 specimens, 10 species, of mollusks from Brazil (61447).
- CHACE, E. P., Los Angeles, Cal.: 15 specimens, 7 species, of crabs from the west coast of America, and 100 specimens of crustaceans from the beach, San Pedro, Cal. (61679, 62016).
- CHAFFEY, DR. ELSWOOD, Lerdo, Durango, Mexico: Specimen of cactus, *Mamillaria durangensis* (62180); specimen of turtle from Durango, Mexico (62475).
- CHAPMAN, MRS. E. M., Washington, D. C.: The General Edward D. Townsend collection of relics of the War of 1812-1815, the War with Mexico, and the Civil War, and miscellaneous historical, ethnological, and archeological objects (62555); an oil portrait by Gilbert Stuart of Mrs. Henrietta Auchmuty, wife of Robert Nichols Auchmuty (61614, loan).
- CHAPMAN, MAJ. R. H., Engr., R. C., New York City: A specimen of pol-lucite from Buckfield, Me. (62351).
- CHAPPELL, HOWARD F. (See under Mineral Products Corporation, Alunite, Utah.)
- CHASE, MRS. AGNES, U. S. Department of Agriculture, Washington, D. C.: 6 specimens of plants from Maryland (62188).
- CHEESMAN, R. L., Usona, Cal.: Specimen of plant, *Torreya californica*, from California (61623).
- CHEMICAL CO. OF AMERICA, New York City (through The Barrett Co.): 5 specimens of coal products—Orthonitroluol, Xylidin, Metaphenylenediamine, Metatoluylenediamine, and Orthotoluidine (61702).
- CHENEY BROTHERS, South Manchester, Conn.: 5 samples of printed novelty dress and lining fabrics: "Zantine silk." (61753).
- CHEW, N. A., Dividing Creek, N. J.: Bird (skeleton), 8 muskrat skulls, and 2 sets of deer leg bones (62029).
- CHICAGO BEAN BREAD CO., Chicago, Ill.: Sample of yellow Manchurian soy beans, sample of soy-bean flour made from whole beans, sample of soy-bean flour made from bean cake after the oil has been pressed out (62589).
- CHRISTIANS, GEORGE W., Guild, Tenn.: Beetle, *Chirida guttata* (61390).
- CHUBB, LAWRENCE S., Princeton, Fla.: 6 teeth of a probably extinct species of whale of the genus *Orcinus* (61981); skull and skeleton of a killer whale, *Pseudorca*, from Florida (62553).
- CLARK, AUSTIN H., U. S. National Museum: Specimen of butterfly, *Junonia coenia*, from Mount Vernon Terrace, Newtonville, Mass. (61536).
- CLARK, B. PRESTON, Boston, Mass.: About 625 Lepidoptera from Izamal, Yucatan; about 300 Lepidoptera from the Philippine Islands; about 100 Microlepidoptera from the Bahamas, and about 100 specimens of Sphingidae (61926, 62065, 62067).
- CLARK, MRS. F. A., Washington, D. C.: 2 Indian ceremonial clubheads of magnesium limestone found at the foot of Catskill Mountains, N. Y. (61381).
- CLARK, DR. F. C., Los Angeles, Cal.: 200 Pliocene bryozoans from the Pacific coast (61676); about 1,000 specimens of Tertiary fossils from the Pacific coast (62018, exchange).
- CLARK, JAMES L., New York City: Skulls of 1 caribou, 2 mountain goats, and 1 mountain sheep (61840, exchange).
- CLARK, W. C., Vicksburg, Miss.: A collection of Oligocene fossils from Glass Bayou, Vicksburg, Miss. (61986).
- CLARKE, DR. F. W. (See under C. S. Bement and B. D. Woodward.)
- CLARK MILLING CO., Minneapolis, Minn.: 5 samples of milling products (62034).
- CLEBURNE PEANUT & PRODUCTS CO., Cleburne, Tex.: Sample of peanut flour (62590).

CLEMENS, Mrs. JOSEPH, Fort Sill, Okla.: 8 specimens of plants from Texas (61413).

CLEMENTS, Miss GABRIELLE DeV., Washington, D. C.: 9 specimens of color printing (62396).

CLEMENTS, J. MORGAN, New York City: A specimen of antimony oxide ore from China, and 1 of piedmontite schist from Japan (62526).

CLEVELAND ENGINEERING SOCIETY, THE, Chamber of Commerce Building, Cleveland, Ohio: Engraving of C. W. Wason, made by Lord Kelvin on the Amstutz Akrograph engraving machine, in London, 1898 (61343).

CLOKEY, IRA W., Denver, Colo.: 187 specimens of plants from Colorado (62338, exchange).

CLYDE IRON WORKS, Duluth, Minn.: 13 mounted photographs of logging machinery (61552).

COBB, JOHN N. (See under Alaska Packers' Association, The.)

COCHRAN, S. C., McIntyre, Fla.: Tooth of a beaked whale (61657).

COCKERELL, Prof. T. D. A., Boulder, Colo.: 5 water-color drawings and 4 specimens of plants (61547); 37 microscopic mounts of plants (61660).

COLE, Miss LILIAN A., Union, Me.: 507 specimens of plants (61408, 61600).

COLIMA, MEXICO, DIRECCION GENERAL DE EDUCACION DEL GOBIERNO DEL ESTADO DE COLIMA: About 500 specimens of insects (62214).

COLLETT, EDWARD J., Big Lue Ranch, Mule Creek, N. Mex. (through Miss Regina M. Brady): Skeleton of a white man (62118).

COLLINS & AIKMAN Co., New York City: 18 specimens of cotton, mohair, and silk velvets (62318).

COLLINS-GARNER CONGO EXPEDITION, Fernan Vaz, French Congo, Africa: 90 mammal skins with skulls, 4 small mammal skeletons, 2 mammal skulls, 155 bird skins, 4 bird skeletons, 2 eggs, a small collection of insects, 26 specimens of plants, and a collection of shells; 200 mammals, 113 birds, 1 nest and 3 eggs, and 2 reptiles; 91 mammals, 149 bird skins, 1 bird skeleton, 1 crocodile, and

COLLINS-GARNER CONGO EXPEDITION—Continued.

a small collection of plants, all collected by Mr. C. R. W. Aschemeier (61585, 62237, 62350, collected for the Museum).

COMMERCE DEPARTMENT OF:

Bureau of Fisheries: 3 bird skins and a blue fox pup, *Alopex*, from St. George Island, Alaska (61386, 61554); 22 bottles of fresh-water plankton collected by Mr. G. Dallas Hanna at St. Paul and St. George Islands, Alaska; also 50 Alaskan mollusks collected by Mr. Hanna (61577, 61785); skulls of 3 black bears, 2 wolves, and 7 lynx, and 1 coyote skins (61405); 10 porpoise skulls with skeletons, 1 odd skull, and 3 photographs (61743); 4 invertebrates, 1 fish, and 2 mammals collected on the Seal Islands (61789); skins of a muskrat, ermine, mink, and spermophile (61884); 6 young turtles from Fairport, Iowa (61893); 47 specimens of *Elassoma zonatum* collected by Mr. F. M. Barnes at Mound, Madison Parish, La. (62103); 25 specimens, 13 species, of calcareous sponges, including types of 11 new species, collected by the *Albatross* Northwestern Pacific cruise, 1906, and reported on by Mr. Sanji Hozawa (61397); specimen of mollusk, *Macra solidissima similis*, collected by Mr. J. Francis Le Baron at Panama City, Fla. (61504); 8 vials containing a collection of entomostraca secured at the Pribilof Islands (61637); crayfish, *Astacus gambeli*, from Gogarza, Utah (61991); 156 lots, approximately 2,250 specimens, of identified Philippine chaetognatha (worms), including the type of a new species, *Sagitta philippini*; also 61 lots of indeterminate remnants of Philippine chaetognatha (61992); 6 specimens of mollusks, *Lampsilis radiata*, collected at Harwichport, Mass., by Mr. Raymond L. Rich (62110); 15 shrimps, *Pandalus borealis*, collected 9 miles southeast of Boone Islands (62563). (See also under Capt. McKenney and D. Stormont).

- COMMISSION OF FINE ARTS, Washington, D. C.: 2 large landscape models, by G. C. Curtis, sculptor, Boston, 1902, of the parking scheme for the city of Washington, proposed by the commission appointed by the Senate Committee on the District of Columbia (61436).
- CONGRESS, LIBRARY OF, Washington, D. C.: Ethnological material, guns, and other miscellaneous objects (61935).
- CONZATTI, Prof. C., Mexico City, Mexico: 126 specimens of plants from Mexico (61557, 61566).
- COOKE, Dr. C. WYTHE. (See under H. L. Hamilton.)
- COOLEY, Mrs. C. C., Washington, D. C.: Waistcoat worn by C. C. Cooley in 1840 on the occasion of a reception to William Henry Harrison, at Dayton, Ohio (62076).
- COOLIDGE, Miss ELLEN N., Washington, D. C.: Mourning brooch of the Colonial period (61441, loan).
- COPELAND, E. B., Chico, Cal.: Fragment of the type specimen of a fern, *Dennstedtia philippinensis*, from the Philippine Islands (61965).
- COPENHAGEN, DENMARK, UNIVERSITETS BOTANISKE MUSEUM (through Dr. C. H. Ostenfeld): Fragments of 3 types and 2 drawings of types of species of *Ficus* (61902, exchange).
- COVERT, L. H., Kinsman, Ohio: Ring-necked snake, *Diadophis punctatus*, and a beetle, *Dytiscus hybridus* (61892).
- COVILLE, FREDERICK V., U. S. Department of Agriculture, Washington, D. C.: 12 specimens of plants from Maryland (61508).
- COX, Mrs. WILLIAM V., and Mrs. WILLIAM M. HANNAY, Washington, D. C.: Life-sized relief picture of a Japanese warrior (61579).
- CRAIGHEAD, F. C., Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C.: Specimen of orchid, *Isotria verticillata*, from Virginia (62395).
- CRANE & MACMAHON (Inc.), New York City: A series of 8 specimens showing steps in the manufacture of a hickory wagon wheel (61736).
- CRANE, W. E., Washington, D. C.: About 1,500 specimens, representing 500 species, of European Paleozoic and Mesozoic fossils; 400 exhibition specimens of ammonites from the Jurassic rocks of France (61358, 61379, exchange); 9 specimens of mollusks, *Donax madagascariensis*, from near the lighthouse at Beira, Portuguese Africa (61806).
- CRAWFORD, J. C., U. S. National Museum: Spearhead found 12 miles east of San Antonio, Tex. (61449).
- CRESPO, Mr. JOSÉ E., Washington, D. C.: A collection of about 100 mollusks from Arecibo, Porto Rico (62137).
- CROSS, Dr. WHITMAN, U. S. Geological Survey, Washington, D. C.: A specimen of foyate from Norway, collected in 1910 (61777).
- CUMMINGS, Mrs. S. E., Washington, D. C.: Hoop skirt and cover of the period of the Civil War (61442).
- CURBAN, H. M., Laurel, Md.: 3 wooden plane blocks of native manufacture from El Bana, Colombia (61465); sample of cactus cotton from a species of *Melocactus* collected by the donor in Venezuela (62092); 5 land shells collected by the donor in Cordoba City, Argentina (62139); 10 fragments of birds from the coast of Venezuela (62488).
- CURRELLY, C. T. (See under Toronto, Canada, Royal Ontario Museum of Archeology.)
- CUSTIS, Miss CATHARINE E., Washington, D. C.: A gold brooch set with a cameo portrait of Dr. Samuel C. F. Hahnemann (1755-1843), founder of homeopathy (61819, loan).
- DACHNOWSKI, ALFRED P., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.: Vial of silt containing planarian eggs and fresh-water mollusks from Kankakee River, South Bend, Ind. (61955).
- DAHLGREN, Prof. ULRIC, Princeton University, Princeton, N. J.: 6 beetles, *Phausis reticulata* (62248).

- DALL, DR. WILLIAM H., U. S. Geological Survey, Washington, D. C.: Silver and copper coins of Burma, collected in 1880 by Rev. C. H. A. Dall (62146). (See also under Miss Helen J. Aitkin and Miss Rebecca Kite.)
- DANFORTH, MRS. CHARLOTTE ELLIS, Washington, D. C.: French hall clock (61450, loan); collection of objects of glass, porcelain, bronze, lacquer, silver, etc.; 14 specimens of jewelry, enamels, embroidery, etc.; doll's sun hat of fine straw and a pearl-bound writing booklet, both of the early nineteenth century, presented by Mrs. Danforth in memory of her father and mother, J. Lewis Ellis and Olive M. Ellis (61510, 61587, 61731); a silver service of 5 pieces, a Mexican saltillo serape, and a Turkish embroidered hanging (61512, loan); a silver thaler of Saxony issued in 1691, and a Dutch silver medal of the seventeenth century (61601); silver and bronze coins and tokens of the United States, Belgium, France, Germany, Great Britain, Spain, and Switzerland (23 specimens) (62101).
- DAVENPORT, Commodore R. G., U. S. Navy (retired), Washington, D. C.: Portion of a set of chinaware presented by Gen. Lafayette to Mr. and Mrs. George Graham, of Virginia, in 1826 (44 specimens) (62054, loan).
- DAVIDSON, DR. A., Los Angeles, Cal.: 7 specimens of plants from California (61349, 61410, 61876).
- DAVIS, JAMES, Shipman, Va.: 2 nests of chimney swift, *Chaetura pelagica* (61518).
- DAYTON, Miss A. L., Trenton, N. J. (through Mrs. Julian-James). Official costume and sword worn at the court of Napoleon III by William L. Dayton, when American minister to France, 1861-1864, and official costume and sword worn by William L. Dayton, jr., when secretary to the American legation in Paris during the same period; also photographs of William L. Dayton and William L. DAYTON, Miss A. L.—Continued.
- Dayton, jr., showing them in official costume (62531); 6 bonnets, a black and brown brocade skirt and 2 waists, 5 miscellaneous waists, a crinoline train lining, a veil, and a tortoise shell comb of the latter part of the nineteenth century (62533).
- DEAM, CHARLES C., Bluffton, Ind.: 103 specimens of plants from Indiana (62276, exchange; 62434).
- DEFTY, W. E., Phoenix, Ariz.: 3 specimens of spotted sandstone (62235).
- DEKOWSKI, FRANK THOMAS, Washington, D. C.: Great horned owl, *Bubo virginianus* (61732).
- DE NEALE, Miss EDNA, Washington, D. C.: Children's and ladies' wearing apparel of the early part of the nineteenth century (61341).
- DENSMORE, Miss FRANCES, Bureau of American Ethnology, Washington, D. C.: 9 ethnological specimens from the Sioux and Hidatsa Indians (61451). (See also under Dr. F. M. Archibald and Wanble-Hoksila, Eagle Boy.)
- DENYS, Rev. F. WARD, Washington, D. C.: An oil painting, "Gathering Flowers," signed E. Keyser, 90 (62313, loan).
- DILLER, J. S. (See under Charles F. Sloane.)
- DISSTON, HENRY, & SONS (Inc.), Philadelphia, Pa.: A series of 18 specimens showing steps in the manufacture of apple and beech saw handles (61729).
- DOBSEVAGE, I. GEORGE. (See under Jewish Publication Society of America, The.)
- DODGE-HOOKER MILLS, Wausau, Wis.: 3 samples of barley products (61969).
- DOMINION COMMISSION OF FISHERIES, Department of Naval Service, Ottawa, Canada: 107 specimens of mollusks and 589 specimens of crustaceans secured by the Canadian Stefansson Expedition to the Arctic, 1913-1916 (62414).
- DOW CHEMICAL Co., Midland, Mich. (through The Barrett Co., New York City): Specimen of coal products—carbon bisulfid (61699).

- DOWELL, Dr. PHILIP, Port Richmond, N. Y.: 18 specimens of plants from the vicinity of Washington, D. C. (61589, exchange).
- DUNHAM, Lieut. GEORGE C., Medical Corps, U. S. Army, Empire, Canal Zone: Specimen of crab, *Pseudothelphusa richmondi*, and a snake, *Drymobius boddaertii* (61377); 8 snakes and 7 insects from Panama (61503, 61795).
- DUPLAN SILK CORPORATION, New York City: 8 specimens of novelty silk fabrics (62222).
- DU PONT DE NEMOURS & Co., E. I., New York City (through The Barrett Co.): 2 specimens of coal products—picric acid, trinitrotoluol (61705).
- DYAR, Dr. H. G., U. S. National Museum: Collection of Lepidoptera, about 15,000 specimens, made before 1897; collection of about 1,000 specimens of sawflies, collection of about 13,000 specimens of mosquitoes and miscellaneous insects, largely Diptera, made in California and Nevada in 1915-16, and collection of about 6,000 specimens of mosquitoes and miscellaneous Diptera, made in Washington, Idaho, and Montana in 1917 (61931); about 100 insects from Cedar Island, Va. (62391).
- DYER, FRANCIS J., American consul, Tegucigalpa, Honduras: 50+mollusks and 20 insects from the vicinity of Tegucigalpa (61427); a small collection of insects from Honduras (61515); insects, a frog, and a lizard; insects and 2 plants; 6 specimens of cacti and about 300 insects (62032, 62290, 62448).
- DYER MUSEUM, DANIEL B., Kansas City Public Library, Kansas City, Mo.: 280 grams of the Kansas City meteorite (61957, exchange).
- EAKLE, Prof. A. S., University of California, Berkeley, Cal.: 20 specimens of minerals from Crestmore, Cal. (61608).
- EASTWOOD, Miss ALICE. (See under California Academy of Sciences.)
- EDDY, Mrs. MARY HOUSTON (through The American Security & Trust Co., Washington, D. C.): Collection of
- EDDY, Mrs. MARY HOUSTON—Contd. paintings, ivories, and miniatures, a Limoges enamel, and miscellaneous objects, to be known as the "A. R. and M. H. Eddy Donation" (62342, bequest).
- EGGEE, Dr. J. B. S., Philadelphia, Pa.: A specimen of quartz from Montgomery County, Pa. (61706, exchange).
- EGGLESTON, W. W., U. S. Department of Agriculture, Washington, D. C.: 31 specimens of plants from Indiana (62152).
- EIMER & AMEND, New York City (through The Barrett Co.): 2 specimens of coal products—sodium benzoate, benzoic acid (61695).
- ELLIS, Prof. MAX M., University of Colorado, Boulder, Colo.: 153 specimens, 14 species, of discodrilid worms from various localities, including the types and paratypes of 8 new species (62057, exchange).
- ENGBERG, Dr. CARL C., University of Nebraska, Lincoln, Nebr.: Ophiuran, *Amptoda periereta*, from sand flats, Puget Sound (61733).
- ERDIS, ELLWOOD C., Metcalf, Ariz.: 2 rattlesnake skins from Arizona (61673).
- ERSKINE, ALFRED M., New York City: Ethnologica of the Dyaks of Borneo, collected for the donor by the Sultan of Koti, Borneo (82 specimens) (62088).
- ERWIN, WALTER, Falls Church, Va.: Crustacean, *Crangonyx tenuis*, taken from a well at Falls Church, Va., by the donor (61791).
- EVANS, Dr. ALEXANDER W. (See under Osborn Botanical Laboratory.)
- EVANS, Mrs. HARRIET, Washington, D. C.: Bohemian ruby glass vase (bronze base added) (61496, loan).
- EVANS, VICTOR J., Washington, D. C.: Wombat skin, skull and skeleton (61416); 9 pieces of glazed decoration pottery and a gray ware rattle vase from Apache County, Arizona, north of the Zuni River, from the collection of Julius Wetzler, Holbrook, Ariz. (61453).

- EVERFRESH Food Co., Ogden, Utah: 8 specimens of dehydrated food products (62125).
- FAERNLEY, Mrs. JOHN, Burlington, N. J.: A few flies belonging to the family Chironomidae (62427).
- FARCHILD BROTHERS & FOSTER, New York City: A series of 13 specimens illustrating the preparation of pepsin (62274).
- FARRAGUT, ESTATE OF LOYALL (through J. Herbert Johnston and George G. Hall, executors, Rear Admiral John C. Watson, U. S. Navy (retired), and I. B. Millner, U. S. Geological Survey): 3 pairs of epaulets, a chapeau, a cap, a belt, a shoulder strap, 2 sword knots, 19 buttons, and 8 silver naval insignia, owned by Admiral David G. Farragut, U. S. Navy, and a pair of epaulets and an aiguillette owned by Lieut. Loyall Farragut, U. S. Army (61402).
- FELIPPONE, Dr. FLORENTINO, Montevideo, Uruguay: 2 beetles, 1 alcyonarian, 7 crustaceans, and 32 mollusks from Uruguay (61925); 29 specimens, 9 species, of mollusks from South America (62527).
- FENTON, CARROLL LANE, Charles City, Iowa: A collection of Devonian fossils from the Hackberry and Hamilton groups (62365, exchange).
- FENTON, Mrs. THEODORE C., Washington, D. C. (through Mrs. Julian-James), Child's muslin petticoat of the early part of the nineteenth century (62514, loan).
- FERGUSSON, Miss PERCY, Biloxi, Miss.: Specimen of weevil, *Balaninus* species (61928).
- FERRISS, JAMES H., Joliet, Ill.: 2 snakes from Arizona (62528).
- FETZER, GEORGE W., Moorefield, W. Va.: Specimen of beetle, *Silpha americana* (61481).
- FROULKE, Mrs. CHARLES M., Washington, D. C.: "Haute lisse" loom for Gobelin tapestry, "Basse lisse" loom for Beauvais tapestry, and repairing board for repairing tapestry (62275).
- FIELD MUSEUM OF NATURAL HISTORY, Chicago, Ill.: 1,420 specimens of plants (61967, exchange).
- FINCH, G. E., Dillon, Mont.: A specimen of diatomaceous earth from Beaverhead County, Mont. (62161).
- FINDEISEN, Dr. REINHOLD, Aguascalientes, Mexico: Specimen of mantis, *Stagmomantis limbata*, from Mexico (62035).
- FISHER, GEORGE L., Houston, Tex.: 189 specimens of plants from Texas (61411, 61564, 61764).
- FISHER, H. L., Annandale, N. J.: Specimen of plant from New Jersey (61634, exchange).
- FISHER, W. S., Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C.: About 500 specimens, representing about 225 named species, of European beetles received by the donor about 1910 from Dr. Walther Horn (62411).
- FITZHUGH, Miss LUCY STUART, Washington, D. C.: 2 portraits, by Sir Peter Lely, of Arthur Spicer and of his wife, Mary Brockenbrough Spicer (61650, loan).
- FLORIDA FEDERATION OF WOMEN'S CLUBS, Homestead, Fla. (through C. A. Mosler): 2 turtles from Florida (62319).
- FLORIDA, GEOLOGICAL DEPARTMENT OF THE STATE OF, Tallahassee, Fla. (through Dr. E. H. Sellards, State Geologist): Fossil turtle from Georgia (62504, deposit); set of well samples from a well at Bushnell, Fla., depth, 2,990 feet (62520).
- FLORIDA STATE MUSEUM, Gainesville, Fla. (through T. Van Hyning, director): 4 mollusks, *Cerithiopsis vanhyningi*, and 2 mollusks, *Eumeta emersoni*, from Old Tampa Bay, Fla. (62567).
- FODNESS, JOHN, Chico, Mont. (through F. L. Hess): A specimen of molybdenite and molybdate in altered rhyolite (61778).
- FOSTER, Miss HARRIET A., Washington, D. C.: A small pewter lard hand lamp, with two spouts, found in a little closet way back in the rafters in the House of Seven Gables, Salem, Mass. (61541).

- FOWLER, JOHN H. Co. (Inc.), Westfield, Mass.: 4 samples of dehydrated vegetables (62089).
- FRANCIS, DR. MARK, College Station, Tex. (through Dr. O. P. Hay): Fragments of the carapace of a fossil edentate, *Glyptodon* (61958).
- FRIERSON, L. S., Frierson, La.: 3 mollusks, 2 of *Lampsilis reevianus* from White River, Mo., and 1 of *L. vibex* from Union County, Tex. (62326); mollusks, *Elliptio bartschi*, from Jocolo, Guatemala (62508).
- GARDNER, ALEX., North Bend, Wash. (through Dr. C. W. Johnson, Seattle, Wash.): Section of tree trunk of cascara sagrada (62218); 16 small photographs showing method of gathering cascara sagrada and preparing it for market, and 2 photographs of growing plants of digitalis (62412).
- GARMAN, Prof. HARRISON, Kentucky State Agricultural Experiment Station, Lexington, Ky.: Crayfish, *Cambarus subterraneus*, from Lexington, Ky., and 6 specimens of medusae, *Craspedacusta sowerbyi* (?), from Benson Creek, Frankfort, Ky. (61459).
- GAUDRON, J., Escuela de Agricultura, Lima, Peru: Specimen of cactus, *Opuntia exaltata* (61865).
- GAVITT, WILLIAM, Evansville, Ind.: A retouched photograph of Maj. John Smith Gavitt, First Indiana Cavalry, and a delegate's bronze badge of the reunion of the Grand Army of the Republic, Evansville, Ind., May, 1916, bearing his portrait (61327).
- GEE, Prof. N. GIST, Soochow University, Soochow, China: Vial of stages of a sawfly, *Arge geei*, and males of same (61872); a collection of fresh-water sponges taken from the canals around the Soochow University campus, Soochow, China (62565).
- GEISENHEIMER & Co., New York City (through The Barrett Co.): 21 specimens of coal products (61703).
- GENERAL BAKELITE Co., New York City (through The Barrett Co.): 8 specimens of coal products—bakelite moulding mixture (black), bakelite
- GENERAL BAKELITE Co.—Continued.
moulding mixture (brown), bakelite cement, bakelite varnish, bakelite lacquer, solid bakelite, bakelite sheet, and bakelite stick (61683).
- GENERAL CHEMICAL Co., New York City (through The Barrett Co.): 6 specimens of coal products—dimethylaniline, diphenylamin, aniline, nitrobenzol, azo-benzol, toluidin (61696).
- GEORGE, Maj. C. P., U. S. Army, Washington, D. C.: A large square of decorated tapa cloth (62580, loan).
- GEORGIA, GEOLOGICAL SURVEY OF, Atlanta, Ga. (through Dr. T. Wayland Vaughan): Set of well samples from a well 3,700 feet deep at Waycross, Ga. (62521).
- GIBBS, P. M., Orange, Va.: Moth, *Citheronia regalis*, and eggs of same (61462).
- GILL, DELANCEY. (See under Hobart Berrian.)
- GILPIN, LANGDON & Co. (Inc.), Baltimore, Md.: 34 specimens of crude vegetable drugs (61908).
- GLOVER, CHARLES L., Washington, D. C.: An oil painting (panel) entitled "The Annunciation," attributed to Fra Angelico (62587, loan).
- GOCHENOUR, DR. DAVID T., Stuarts Draft, Va.: 14 specimens, 6 species, of Philippine mollusks (61460).
- GODING, DR. FREDERIC W., American consul general, Guayaquil, Ecuador: Collection of butterflies and other insects (about 300 specimens) from Ecuador (61463); 3 snakes, 2 toads, and an insect from Ecuador (61675); (through Department of State) a head molded in clay by the Indians near Esmeraldas, Ecuador (62145).
- GOLDSBOROUGH, MRS. MARY F., Washington, D. C. (through Mrs. Julian-James and Mrs. R. G. Hoes): White satin knee breeches and waistcoat owned during the War of the Revolution by Col. Tench Tilghman, Continental Army (62517, loan).
- GOLISCH, W. H., Southwest Museum, Los Angeles, Cal.: 39 specimens, 16

GOLISCH, W. H.—Continued.

species, of marine shells from Laysan Island, Hawaiian Islands (61906).

GORDON, S. G., Academy of Natural Sciences, Philadelphia, Pa. (through Dr. Edgar T. Wherry): A specimen of nickeliferous pyrrhotite and associations from Berks County, Pa. (62337).

GRANT, J. M., Montesano, Wash.: 120 specimens of plants from Washington (62084, exchange).

GRAVES, E. W., Long Island, Ala.: 5 specimens of ferns from Alabama and Georgia (61406, 61812); 6 specimens of ferns (61885, exchange).

GRAY, GEORGE M. (See under Marine Biological Laboratory, Woods Hole, Mass.)

GRAY, THOMAS, Ellenville, N. Y.: Mosquito, *Psorophora ciliata* (61482).

GREAT VALLEY MILLS, THE, Paoli, Pa.: 7 samples of cereal products (61949).

GREEN, LESTER M., Mount Jackson, Va.: An old flax breaker (62579).

GREENE, F. C., Tulsa, Okla.: 3 specimens of ferns from Oklahoma (62470).

GREENE, MRS. L. M., Washington, D. C.: An embroidered Chinese crêpe shawl (62478, loan).

GRINNELL, G. H., Los Angeles, Cal.: 420 specimens of plants from California (61565).

GROVER, Prof. F. O. (See under Oberlin College.)

GUILLEMETOT, Mons. P., Corail, near Jérémie, S. W., Haiti (through Dr. William L. Abbott): Stone celt which formed part of a boko's outfit and a charm worn by a boko (Voodoo priest), Haiti, West Indies (62330).

HALL, GEORGE G. (See under Farragut, Estate of Loyall.)

HALL, Prof. H. M. (See under California, University of.)

HAMBURGER, M. E., Washington, D. C.: A cut gem of brown citrine quartz (61363, exchange).

HAMILTON, H. L., Houston, Tex. (through Dr. C. Wythe Cooke): A

HAMILTON, H. L.—Continued.

collection consisting of 14 lots of Eocene fossils from Negreet, Sabine Parish, La. (62495).

HANNAY, Mrs. WILLIAM M. (See under Mrs. William V. Cox.)

HARPER, ROLAND M., U. S. Department of Agriculture, Washington, D. C.: Plant from Alabama and one from Maryland (62454, 62543).

HARRIS, B. B., North Texas State Normal College, Denton, Tex.: Beetle, *Cicindela schauppi* (62086).

HARRIS, Dr. J. ARTHUR. (See under Carnegie Institution of Washington, Station for Experimental Evolution, Cold Spring Harbor, N. Y.)

HARRISON, Dr. CARRIE, Brookland, D. C.: Carrying basket made in Japan in 1900 (61475); an osier basket with lid, from Ponta Delgada, Azores (61495); straw basket made at Toramma, Sicily; esparto basket used by Moors in Gibraltar, collected by the donor; and a fiber spathe of the troolie palm, *Manicaria saccifera* (61558).

HARTMAN, Lieut. PETER W., Port de Paix, Haiti (through Dr. William L. Abbott): Specimen of Voodoo drum from Haiti (61539).

HARTSHORN, R. H., Washington, D. C.: 22 specimens, 10 species, of freshwater mollusks, *Naiades*, from Ohio River, Cincinnati, Ohio (61938).

HARVARD UNIVERSITY, Cambridge, Mass.:

Arnold Arboretum (Jamaica Plain): 243 specimens of Philippine plants (62384, exchange).

Gray Herbarium: 787 specimens of plants, and fragmentary specimen of fern from New Mexico (61304, 61737, 62257). Exchange.

Museum of Comparative Zoölogy: 2 specimens of reptiles, and 2 amphibaenlans from Peru (61513, 61910); 2 bats, (alcoholics), *Erophylla* (61936); skin of *Mimocichla ravidia* (62294). Exchange.

- HARVEY, JOE R., Delta, Colo.: Specimen of carnotite from Mesa County, Colo. (62461).
- HASKELL, SIDNEY B. (See under National Fertilizer Association.)
- HAWKES, T. G., & Co., Corning N. Y.: 7 specimens of cut glass and 3 specimens of decorated glassware (61707, 62576).
- HAWKINS, BARRY C., Highlands, N. C.: Specimen of salamander from North Carolina (62182).
- HAY, DR. O. P., Carnegie Institution of Washington, Washington, D. C.: 47 turtles from various localities (61645). (See also under Dr. Mark Francis, C. E. Lutz, Isaac M. Wellis, and Prof. F. H. Whitney.)
- HAY, DR. W. P., Kensington, Md.: 13 alcoholic shrews, *Cryptotis*, and a male specimen of oyster crab, *Pinnotheres ostreum* (61765, 61774).
- HAYNES, MISS CAROLINE C., Highlands, N. J.: 50 specimens of hepatics from the eastern United States (61948, exchange).
- HEATH, MRS. GEORGE E. C., Washington, D. C.: Maltese lace tie purchased in the Island of Malta in 1872 (62581, loan).
- HEIKES, VICTOR C. (See under W. H. Parker and W. A. Wilson.)
- HEINER, DR. ADAM, Baltimore, Md.: A petaloid stone celt found on the Island of Navassa, West Indies, in 1839, and a collection, 14 specimens, of firearms (62210).
- HEITMULLER, ANTON. Washington, D. C.: Pocket dagger (62142).
- HELLER, A. A., Chico, Cal.: 29 specimens of California plants (62080).
- HEMMINGS, G. W., Huntington Park, Cal.: 10 specimens of a South American species of beetle, *Eumolpus* (62249).
- HENDERSON, JOHN B., Washington, D. C.: 3 mollusks, one *Pecten nodosa*, and the other two *Voluta junonia*, from Florida (62213).
- HENDRICKSON, S., Deermont, S. Dak.: 2 specimens of plants from South Dakota (61653).
- HERMAN & HERMAN, New York City (through The Barrett Co.): 2 specimens of coal products—benzaldehyde, Prussian blue (61691).
- HERRERA, DR. A. L., Mexico City, Mexico (through U. S. Department of Agriculture, Washington, D. C.): Specimen of sponge of the genus *Sidonops*, family Geodiidae, collected in Yucatan (61555); crustacean, *Eviabacus princeps*, from Lower California; and a pearly mussel, *Nephronaias aztecum*, from the Rio Conchos, Chihuahua (62078).
- HESS, F. L. (See under Atolia Mining Co., John Fodness, F. W. Horton, Leviathan Mines Co., W. H. Parker, and Harry E. Penny.)
- HEWITT, MRS. ROBERT, Ardsley-on-Hudson, N. Y.: The Robert Hewitt collection of medallic Lincolniana, consisting of medallions, plaques, medals, medalets, tokens, coins, and badges commemorating the life, services, and death of Abraham Lincoln (1,200 specimens) (61888).
- HEYDEN CHEMICAL WORKS, THE, New York City: 16 specimens of synthetic medicinal chemicals (61714).
- HEYST, A. F. C. A. VAN, Polonia Estate, care Deli Maatschappij, Medan, Sumatra, Dutch East Indies: Skin of kingfisher, *Halcyon chloris*, from Sumatra (61920).
- HIBBARD, RAYMOND R., Buffalo, N. Y.: 50 specimens of Devonian bryozoans (61464); 350 specimens of trepostomatous bryozoans from the Lower Hamilton shales at Wanakah Cliff, New York (61677, exchange).
- HIGGINS, H. C., Belmar, N. J.: 20 specimens, 3 subspecies, of mollusks, *Amphidromus* (62234); mollusk, *Amphidromus versicolor monticola*, type of a new subspecies, from Mount Landargung, Palawan, Philippine Islands (62343, exchange).
- HIGHEAGLE, ROBT. P. (See under Wamble-Hoksila, Eagle Boy.)
- HILLEBRAND, DR. W. F., Bureau of Standards, Washington, D. C.: A col-

HILLEBRAND, Dr. W. F.—Continued.

lection of mineral samples consisting largely of described material (61448).

HILTON, Dr. WILLIAM A. (See under Pomona College, Claremont, Cal.)

HINSDALE, F. GILBERT, New York City: 3 specimens of whaling apparatus from Massachusetts and Connecticut, consisting of an explosive lance of 1850, a harpoon of about 1855, and a nonexplosive lance of 1857; also a large single-flued harpoon, New Bedford, Mass., 1840-1855 (62251, 62328). Exchange.

HIORAM, Brother, Colegio del Sagrado Corazón, Guantanamo, Oriente, Cuba: 168 specimens of ferns from Cuba and Colombia (62255).

HJORTDAHL, Mrs. FRITHJOF, Hyattsville, Md.: A piece of art needlework—Norwegian landscape (61822, loan).

HITCHCOCK, Prof. A. S. (See under E. L. Johnston.)

HITCHCOCK, Mrs. G. L., Washington, D. C.: Collection of Capo de Monte porcelains, bronzes etc. (20 items) (62300, loan).

HITCHENS, Capt. GEO. D., Capeville, Va.: Starling, *Sturnus vulgaris*, from Smiths Island, Va. (62036).

HODLEY, CHARLES W., New York City: A specimen of crystallized prehnite and thompsonite from West Paterson, N. J. (61742).

HOBSON, Mrs. A. H., Fort Myers, Fla.: 443 specimens of plants from Florida (61769, 61879).

HOES, Mrs. R. G. (See under Mrs. Finlay H. Calvert, Mrs. Mary F. Goldsborough, Dr. Charles F. Langworthy, and Mrs. Allen M. Sumner, jr.)

HOFFMANN - LA ROCHE CHEMICAL WORKS, THE, New York City: Specimen of Persian gum opium and 9 specimens of opium products (61545).

HOLCOMB, BENTON, Simsbury, Conn.: 16 specimens, 4 species, of mollusks from Connecticut (62030).

HOLCOMB, Dr. R. C., Washington, D. C.: 23 specimens of coral collected by the

HOLCOMB, Dr. R. C.—Continued.

donor on the beach at Culebra Island, Virgin Islands (62550).

HOLLISTER, N., National Zoological Park, Washington, D. C.: Skull of a red fox (61832).

HOLMES, WILLIAM H., U. S. National Museum: Leaf-shaped blade of light gray quartzite found by the donor in his garden, Watts Branch, Montgomery County, Md. (61488); bronze medal awarded to William Henry Holmes by the Panama-Pacific International Exposition, San Francisco, 1915, for services in the preparation and installation of Smithsonian exhibits for the exposition (61455); 3 Navaho Indian moccasins, a small beaded pouch, Apache Indian, and 1 rebosa from Yucatan, collected by the donor (61754).

HOLWAY, Prof. E. W. D., Pillsbury Hall, University of Minnesota, Minneapolis, Minn.: 78 specimens of parasitic fungi from Mexico and Central America, and 52 specimens of rusts from Guatemala (61423, 62174, exchange).

HOOPER, Miss CAROLYN E., Washington, D. C.: 2 specimens of cecropia moth, *Samia cecropia* (62465).

HOOPES BROS. & DARLINGTON (Inc.), West Chester, Pa.: A series of 14 specimens showing steps in the manufacture of an automobile wheel (62361).

HOPKINS, IRA W., Washington, D. C.: Colonial embroidered picture entitled "Belville & Rosina" (61400); about 200 specimens of Cuban mollusks (61425).

HORST Co., THE E. CLEMENS, San Francisco, Cal.: A collection of dehydrated food products and examples of the same restored to normal state by soaking (62207).

HORTON, F. W., Washington, D. C. (through Frank L. Hess): 15 specimens of ores and minerals (62494).

HOUGH, Dr. WALTER, U. S. National Museum: 10 specimens of plants from Arizona and New Mexico (61312, 61347, 62509); 19 wood engravings

HOUGH, Dr. WALTER—Continued.

by Henry Wolf, N. A., after paintings by various artists (61849); English hunting knife (62055).

HOUSE, B. K., State Mills, Va.: Chrysalis of a butterfly, *Papilio turnus glaucus* (62025).

HOUSE, Dr. H. D. (See under New York State Museum.)

HOWE, Dr. R. HEBER, Jr., Thoreau Museum of Natural History, Middlesex School, Concord, Mass.: 65 dragonflies, 39 species (62088, exchange).

HOWELL'S MICROCOSM, Washington, D. C.: Model showing occurrence and mining of gold—lode mining, dredging, hydraulicking, sluicing, etc. (62571).

HOXIE, Brig. Gen. RICHARD L., U. S. Army (retired), Washington, D. C.: Portrait in oil of Vinnie Ream, painted by G. P. A. Healy during her early residence in Rome in 1870 (61830).

HOY, CHARLES M., Rochester, N. Y.: Skins and skulls of 12 small mammals (62265).

HRDLIČKA, Dr. A., U. S. National Museum: Skin and skull of a black squirrel from the District of Columbia (61839); skin and skull of a pine mouse, *Pitymys* (62269); broad-winged hawk, *Buteo platypterus*, and a snake from Washington, D. C. (62336).

HUBERT, H. EDWARD, New Orleans, La.: 79 specimens of marine invertebrates, consisting of 14 worms, 28 crustaceans, 37 mollusks, 11 batrachians, 1 reptile, and 6 specimens of fishes and insects from Louisiana (61944).

HUNT, C. E., Lakeview, Mont.: Moth, *Erebus odora* (62286).

HUWE, HARRY J., S. J., St. John's College, Belize, British Honduras: 7 specimens of fishes from British Honduras, a squid and a spiny lobster (61491); a small collection of reptiles and batrachians (61527).

HYMAN, L. H., Chicago, Ill.: Specimens of sponge from San Juan Island, Washington (61591).

IDDINGS, Dr. J. P., Brinklow, Md.: A collection of rocks from the Orient (62552, collected for the Museum).

ILLINOIS, UNIVERSITY OF, Urbana, Ill. (through Dr. William Trelease): 2 specimens and 2 photographs of plants (61317, exchange); specimen of plant (62497).

IMPERIAL BUREAU OF ENTOMOLOGY, Pusa, Bihar, India: 16 sawflies representing 4 species (62393).

INTERIOR DEPARTMENT:

Bureau of Mines (See under William Garret Ridgley).

Office of Indian Affairs: An old Pueblo skull, and fragments of pottery with painted decorations and a few pieces of colled ware, found by F. F. Frisbee in ancient graves near the foot of the Tohatchi Mountain, opposite what appears to have been an old Pueblo ruin on the Navaho Reservation (61326).

U. S. Geological Survey: A collection of rocks and ores from Tintic, Utah, collected by Mr. G. F. Loughlin (61323); a slab of ripple marks from Sioux Falls, S. Dak., and miscellaneous fossils from the Helderberg limestone at Glen Erie, N. Y., collected by Mr. N. H. Darton (61338); horn core of an extinct bison from the Searchlight placer, Manhattan, Nev. (61357); samples of ornamental marble collected by Mr. R. W. Pack in the Barstow region, California, and described by him in Bulletin 540-K, U. S. Geological Survey (61383); a specimen of graphite from Raton, N. Mex., showing columnar structure (61385); 135 specimens of plants, and the skull of a fossil horse collected in Alaska by Mr. George L. Harrington (61470, 61987, 61907); marbles and granites illustrating Geological Survey reports by Prof. T. Nelson Dale (61563); 10 specimens of granite obtained by Prof. Dale from operators of quarries in Maine, Massachusetts, and Vermont (62388); a collection of fossil plants from near Cumberland,

INTERIOR DEPARTMENT—Continued.

Wyo., obtained by Mr. A. C. Veatch in 1905, Dr. T. W. Stanton, and Dr. F. H. Knowlton in 1908, and Dr. Stanton in 1913, described and illustrated in U. S. Geological Survey Professional Paper 108-F (61766); 6 lantern slides of dinosaur restorations (61779); 50 pounds of crushed phosphate rock (61983); a collection of blocks, fragments, and glaciated pebbles of Silurian tillite, from Alaska, obtained by Dr. Edwin Kirk in 1917 (62068); 3 turtles collected by Mr. Charles A. Mosler at Royal Palm Hammock, Fla. (62090); a specimen of uvanite from Temple Rock, Emery County, Utah; gypsum specimens from California, described by Mr. F. L. Hess in Bulletin 413, U. S. Geological Survey; and magnesite specimens from California, described by Mr. Hess in Bulletin 355, U. S. Geological Survey (62096); a collection comprising 76 specimens of Cretaceous fish scales with a few bones, figured to illustrate a paper by Prof. T. D. A. Cockerell (62196); a collection of Cretaceous and Tertiary turtles and other vertebrate fossils obtained in 1916 by J. B. Reeside, jr., in northwestern New Mexico (62198); ferberite from the Dorothy vein, head of Millionaire Gulch, Boulder County, Colo. (62242); 7 specimens of chalmersite from Alaska (62266); 7 small lots of Eocene fossil insects and a fossil fish collected by Mr. Dean E. Winchester in northwestern Colorado (62272); a specimen of calcareous sinter from Mammoth Hot Springs, Yellowstone National Park (62283); 1 dried specimen and 4 heads of catfish, *Ameiurus nebulosus*, introduced from eastern waters; also 2 dried specimens of chub, *Siphateles mohavensis*, native to the Mohave River, collected by David G. Thompson, on the shores of Silver Lake, California (62321). (See also under P. Balgord, L. C. Barlow, Russell Moyle, and Rafael Taborga.)

JAMES, MRS. JULIAN-, Washington, D. C.: A leghorn bonnet of 1840 and a white shawl and a pair of white satin boots of 1860 (62518, loan). See also under Miss A. L. Dayton, Mrs. Theodore C. Fenton, Mrs. Mary F. Goldsborough, Mrs. E. L. McClelland, Mrs. Nelson B. Oliphant, and Mrs. Charles W. Richardson.)

JANDORF, MORTON L., York, Pa.: Specimens of empressite (61429, exchange).

JENNINGS, A. H., Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C.: Tree-frog, *Hyla cinerea*, from Virginia (61421).

JEPSON, Prof. W. L., University of California, Berkeley, Cal.: 403 specimens of plants from Alaska (62023, 62206); 153 specimens of plants from California (62277, 62457).

JEWISH PUBLICATION SOCIETY OF AMERICA, THE, Philadelphia, Pa. (through I. George Dobseavage, secretary): Jewish English translation of the Old Testament (62075).

JOHNSON, Dr. C. W., dean, College of Pharmacy, University of Washington, Seattle, Wash.: 21 small photographs showing method of gathering cascara sagrada and preparing it for market (62407). (See also under Alex. Gardiner.)

JOHNSON, NELSON T., American consul, Changsha, China: A twin cinnabar crystal from China (61395).

JOHNSON, Hon. THOMAS H., Pensacola, Fla. (through Dr. T. Wayland Vaughan): A fossil shell, *Scapharca*, probably a new species, from Pensacola, Fla. (61748).

JOHNSON, HEIRS OF WILLIAM COST (through Mrs. E. Cuyler Wight, Lander, Md.): 2 miniatures, one of Napoleon I and the other of Marie Louise, by Isabey, 1811, and 2 old English silver snuffboxes (62168); 3 historical guns (62379).

JOHNSTON, E. L., Coleman, Colo. (through Prof. A. S. Hitchcock): 27 specimens of plants from Colorado (61728, 61921).

- JOHNSTON, I. M., Upland, Cal.: 44 specimens of plants from California (61583, 61750, 61768, 61915, 61979, 62179, 62270, 62430); 9 specimens of plants from California (62322, exchange).
- JOHNSTON, J. HERBERT. (See under Farragut, Estate of Loyall.)
- JOHNSTON, Mrs. SANDERS, Washington, D. C.: A Roman bronze lamp in shape of mask of Silenus (62513).
- JONES, Miss EMILY READ, Washington, D. C.: Uniform coat worn during the Civil War by Maj. Gen. Samuel Jones, C. S. A. (62349); a bound volume, entitled "The Siege of Charleston," by Maj. Gen. Samuel Jones, C. S. A. (62481).
- JONES, FAYETTE A., Albuquerque, N. Mex.: 5 specimens of fossils from the Upper Cretaceous, Colfax County, N. Mex. (62371).
- JONES, JAMES E., Pierson, Fla.: Rattles of rattlesnake (61603).
- JONES, WILLIAM, U. S. National Museum: Bat, *Eptesicus fuscus fuscus* (61432).
- JOSEPH DIXON CRUCIBLE Co., Jersey City, N. J. (through The Barrett Co.): 6 specimens of coal products—flake graphite No. 1, flake graphite No. 2, graphite lubricant, graphite lubricant, 2 crucibles (61689).
- JOSEPH, M. B., Memphis, Tenn.: An English lever watch movement and a Confederate Colt's single-action revolver (61709).
- JUDD, GEORGE H., Washington, D. C.: Fragment of iron thought to be meteoric (61746).
- JUDD, NEIL M., U. S. National Museum: Early American glass flask (62022); a notched stone implement found by the donor in Johnson Canyon, Kane County, Utah (62480).
- JUDGE, JOHN S., Milford, Conn.: Specimens of fungus, *Hypholoma perpleurum*, from Connecticut (61894).
- KELLOGG, Prof. CLAUDE R., Anglo-Chinese College, Foochow, China: 1 specimen each of Polypedates, Plesiodon, and Ophiosaurus from China (62287).
- KELSEY, ALBERT, Philadelphia, Pa.: Gold watch owned by Maj. Gen. C. C. Washburn, U. S. Volunteers (62004).
- KENDALL, C. E. Y., Oundel, Northamptonshire, England: 10 mollusks, *Paludestrina deani*, from the Pleistocene deposits at Woodston, Hunts, England, and 4 mollusks, *Mytilus edulis*, from barges, Manchester Ship Canal, England (61859).
- KEW, SURREY, ENGLAND, ROYAL BOTANIC GARDENS: Specimen of a fern, *Polypodium sprucei*, from Peru (61497, exchange).
- KEYSER, E. W., Washington, D. C.: A pair of glass salt cellars and a pair of silver salt spoons of the early part of the nineteenth century (61762); lacquer snuffbox of the Revolutionary period; whale's tooth pendant from Gilbert Islands; 3 small ivory carvings, Eskimo; wooden spoon of the Creek Indians; terra-cotta figurine from Guatemala and an iron candlestick from Vermont (61851); 3 Indian baskets and a game racket (62232); 22 ethnological objects from various localities (62436, exchange).
- KILLIP, ELLSWORTH P., Ancon, Canal Zone: 878 specimens of plants from Panama (61800, 61964, 62031, 62047, 62085, 62106, 62280, 62345, 62422, 62525).
- KIMBALL, Miss KATHARINE D., New York Botanical Garden, Bronx Park, New York City. Specimen of plant, *Eriophorum*, from India (61953).
- KING, Mrs. HORATIO, Washington, D. C.: 200 mollusks, a horned toad, and the saw of a shark, *Pristiophorus* (62554).
- KIRBY, O., Flowerfield, Mich.: A flint knife (62463).
- KIRK, Dr. EDWIN, U. S. Geological Survey, Washington, D. C.: 6 skulls of Indians and 2 extra jaws collected by the donor in southeast Alaska during the summer of 1917 (61815); 2 grooved stone hammers found by the donor in the neighborhood of Teton Creek, on the west side of Teton Mountains, Idaho (62244).

- KITE, Miss REBECCA, Jamaica Plain, Mass. (through Dr. W. H. Dall): Specimen of frog from New Hampshire (61578).
- KUNZ, Miss EDITH F., New York City: Annelid, *Hermodice carunculata*, from Sarasota, Fla. (62072).
- KURSHEEDT MANUFACTURING CO., THE, New York City: 24 samples of machine embroidered official emblems of the Army, Navy, and Food Administration, showing work done on the Sauer and Schiffli machines (62216); 77 samples of machine embroidered official emblems of the Army and Navy, showing work done on the Sauer and Schiffli machines (62429); 6 specimens of official emblems of the Boy Scouts of America, machine embroidered on cotton khaki (62473).
- LACEY, HOWARD, Kerrville, Tex. (through Mr. Vernon Bailey): Specimen of fern, *Anemia mexicana*, from Texas (62483).
- LA FLESCHÉ, FRANCIS, Bureau of American Ethnology, Washington, D. C.: Iron concretion in the form of 2 coal-escent globes, from the Omaha Reservation, Nebraska (61538); specimen of plant from Oklahoma (62469).
- LAKE, S. R., North Fork, Va.: 6 larvae of *Dynastes tityus* (61730).
- LAMB, Dr. D. S., Army Medical Museum, Washington, D. C.: 2 anatomical specimens (61913).
- LANG, Dr. JULIO, Comayagua, Honduras, Central America: A spear point of agate from Honduras (62560).
- LANGWORTHY, Dr. CHARLES F., U. S. Department of Agriculture, Washington, D. C. (through Mrs. R. G. Hoes): A child's tea set in blue and white china (61570). (See also under Mrs. Annette Smith Neville.)
- LANSBURGH, Mrs. JAMES, Washington, D. C.: Collection of Japanese and Chinese ivory carving (39 specimens) (62024, loan).
- LAWRENCE, Prof. W. E. (See under Oregon State Agricultural College.)
- LEAKE, C. R., Dixon, Ill.: Specimen of cactus (61550).
- LEAVY, JOSEPH B., U. S. National Museum: Cardboard proofs of 7 United States postage-due stamps of the issue of 1879, and of 24 United States newspaper stamps of the issue of 1875 (61380); United States postage stamps, without watermark, perforated 11, and issued 1917-18, as follows: 1 cent, three shades; 3 cents, die one, three shades; 3 cents, die two, three shades; 3 cents, surface printed, three shades; also 3 cents, imperforate, die one, four shades; and 3 cents, imperforate, die two, four shades (20 specimens) (62551).
- LEE, W. T. (See under G. D. Bowie.)
- LEHIGH COKE CO., South Bethlehem, Pa.: Box of coke (61701).
- LELAND STANFORD JUNIOR UNIVERSITY, Stanford University, Cal.: Type specimen of fish, *Erioteis kalisherae* (61537); 5 specimens, 4 species, of pinnotherid crabs from California (61710); (through Dr. LeRoy Abrams) specimen of plant, from Mexico (61922); 4 specimens of *Xenatherina lisa* (cotypes), and 1 specimen of *Hubbestia gilberti* (62170).
- Dudley Herbarium of Leland Stanford University* (through LeRoy Abrams): 801 specimens of plants chiefly from California (61622, exchange).
- LEON, Brother, Colegio de la Salle, Vedado, Habana, Cuba: 121 specimens of plants from Cuba (62097, 62377, 62423). Exchange.
- LESHER, WHITMAN & Co. (Inc.), New York City: 3 samples of cotton warp worsted, "Honey Cloth" (61469).
- LEVIATHAN MINES COMPANY, Yucca, Ariz. (through Mr. Frank L. Hess): A specimen of molybdenum ore, weighing approximately 100 pounds (61866).
- LEWIS, Maj. GEORGE C., U. S. Army, Presidio, San Francisco, Cal.: 4 bird skins from Mindanao, Philippine Islands (61988, loan).
- LEWIS, MARY E., Grove Beach, Conn.: One sea-urchin, *Strongylocentrotus drsbachiensis*, collected at Grove Beach (62236).

- LONDON, ENGLAND, BRITISH MUSEUM (NATURAL HISTORY): 7 specimens of reptiles and batrachians (62372, exchange).
- LONGUEUIL, QUEBEC, COLLEGE DE LONGUEUIL (Brother Marie-Victorin, director): 660 specimens of plants from Quebec (62164, exchange).
- LOOMIS, Miss MARTHA L., Sherborn, Mass.: 122 specimens of plants from Massachusetts (61376, 61412, 61434, 61488, 61505, 61525, 61546, 61580, 61597, 61621, 61642, 62542).
- LOWE, H. N., Long Beach, Cal.: Types of 2 new California land shells, *Epiphragmophora cuyamacensis lowei*, from Palomar Mountain, and *E. traskii isidroensis*, from Camp Isidro Mountain (61560); 133+specimens, 12 species, of California crustaceans (62307).
- LOWE, LEON P., San Francisco, Cal.: Fragment of the Confederate military balloon made of silk dresses at Richmond, Va., during the Civil War and secured by Prof. T. S. C. Lowe, aeronaut of the Army of the Potomac, after the capture of Richmond in 1865 (61757).
- LUNELL, Dr. J., Leeds, N. Dak.: 772 specimens of plants from North Dakota (61533, exchange).
- LUTHERAN COMMITTEE ON CELEBRATION OF THE QUADRICENTENNIAL OF THE REFORMATION, 1517-1917, Philadelphia, Pa.: 2 bronze medals (duplicates) commemorating, 1917, the four hundredth anniversary of the Protestant Reformation, 1517 (61878).
- LUTZ, C. E., Austin, Tex. (through Dr. J. A. Udden and Dr. O. P. Hay): A mastodon tooth from near Bastrop, Tex. (61924).
- MCATEE, W. L., Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C.: 86 specimens of plants from the District of Columbia and vicinity (61532, 61719, 61770, 61811, 61308, 62323); 29 specimens of plants from Labrador (62541).
- MCCLELLAN, Hon. GEORGE B., Princeton University, Princeton, N. J.: MCCLELLAN, Hon. GEORGE B.—Contd. Swords, uniforms, and miscellaneous relics of Maj. Gen. George B. McClellan, U. S. Army (61884).
- MCCLELLAND, Mrs. E. L., Washington, D. C. (through Mrs. Julian-James): Lady's black silk sunshade of the latter part of the nineteenth century, and 4 daguerreotypes (62519, loan).
- MCCOLL, W. R., Owen Sound, Ontario: 2 specimens of fern from Ontario (61521, 61917).
- MACDONALD, Dr. D. F., Port Limon, Costa Rica: A collection of fossils from Costa Rica (61628); (through Mr. W. P. Woodring and Dr. T. Wayland Vaughan) 12 lots of Tertiary invertebrates from Panama (62216).
- MACDONALD, N. C. (no address given): Skin of Ghiesbreght's hawk, *Leucopternis ghiesbreghtii*, from Costa Rica (62258).
- MACFADDEN, CARL K., New York City: 4 photographs of an artificially reduced human head from south Colombia or Ecuador (62437).
- MACFARLANE, Dr. JOHN M. (See under Pennsylvania, University of.)
- MACLEAN, J. P., Franklin, Ohio: Bowlder showing traces of human handiwork, the concave depression of one side appearing to have been used as a mortar possibly for grinding paint (62233).
- MCGAREY, AMBROSE, Beaver City, Utah: 15 archeological objects from mounds at Beaver City, Utah (62100).
- MCGREGOR, J. H., Columbia University, Department of Zoology, New York City: Plaster cast—a copy of the donor's restoration of the Gibraltar skull (62329).
- McKENNEY, Capt. and D. STORMONT, Virginia Beach, Va. (through Department of Commerce, Bureau of Fisheries): Sea lion pelt (61433).
- McLANE, Mrs. ALLAN, Washington, D. C.: Dresden groups, English, French, Italian, and German porcelain and pottery; jade, tortoise shell, ivory, and lacquer (274 specimens) (61776, loan).

- McNAUGHTON, J. P., Miami, Okla.: Specimens showing "secondary deposit" of galena on mining tools, with samples of the associated ores and rocks (61443).
- MACOMB, Misses CHRISTINA and NANNIE R., Washington, D. C.: A uniform chapeau, a pair of epaulets, 5 shoulder straps, 11 pieces of military insignia, and 26 uniform buttons, worn by Col. John N. Macomb, U. S. Army (61618).
- MACOUN, JAMES M. (See under Canada, Geological Survey of.)
- MAGAREY, Mrs. A. T., Gurrawarra, Mount Loft Station, South Australia: 2 eggs of the Alexandrine parrot, *Spathopterus alexandrae* (61339).
- MANCHESTER, JAMES G., New York City (through Dr. Edgar T. Wherry): A specimen of crystallized pectolite from Bergen Hill, N. J. (61499); a small suite of individual datolite crystals from the Erie Railroad cut, Bergen Hill, N. J. (62215).
- MANN, Dr. ALBERT, U. S. Department of Agriculture, Washington, D. C.: 246 specimens of plants from Bavaria (61610).
- MANNING, ISAAC A. (See under George C. Matson and Señor Don Gabriel H. Pifeda.)
- MANSFIELD, WENDELL C., U. S. Geological Survey, Washington, D. C.: 40 specimens, 4 species, of recent freshwater mollusks from the outlet of Onondaga Lake, N. Y., and 10 pieces of rock containing Devonian fossils from near Canandaigua, N. Y.; also 2 pieces of rock containing fossils from Forestville, N. Y. (61420).
- MARDEN, ORTH & HASTINGS Co., New York City (through The Barrett Co.): 6 specimens of coal products—benzidin base, benzidin sulphate, naphthionic acid, anilin oil, sulfanilic acid, anilin salt (61700).
- MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass. (through George M. Gray, curator): Mollusk, *Octopus americanus*, from Jamaica (61951).
- MARSHALL, D. E., Danville, Va.: Specimen of beetle, *Lucanus elaphus* (62548).
- MARSHALL, E. B., Laurel, Md.: Specimen of an orchid, *Blephariglotis ciliaris*, and a prairie horned lark, *Otocoris alpestris praticola*, from Maryland (61435, 62241); 3 gray squirrels, skins and skulls; mink, *Mustela*; skin and skull of a meadow-mouse, *Microtus* (61767, 62063, 62268).
- MARSHALL, GEORGE, U. S. National Museum: A steatite bullet mold (61417).
- MARTZ, Miss MAMIE E., St. Paul, Ind.: 2 specimens of supposed meteorites (61937).
- MASSIE, Miss F. A. (See under William P. Massie.)
- MASSIE, WILLIAM P., Buenos Aires, Argentina (through Miss F. A. Massie): Ostrich, *Rhea*, feather rug from Paraguay, South America (61847).
- MATSON, GEORGE C., Washington, D. C. (through Isaac A. Manning): 6 small cases of fossils collected in various parts of Colombia, South America (61356).
- MAURY, Dr. CARLOTTA J., Hastings upon Hudson, N. Y.: A small collection of fossil crustaceans from Santo Domingo (61324).
- MAURY, Commander MATTHEW FONTAINE, U. S. Navy, DESCENDANTS OF (through Mrs. Mary Maury Werth, Richmond, Va.): 2 commemorative bronze medals owned by Commander Matthew Fontaine Maury, U. S. Navy (62005).
- MAXON, WILLIAM R., U. S. National Museum: Specimen of mole, *Scalops aquaticus* (61548); snake, *Carphophis amoenus*, from Virginia (61632); 2 specimens of plants from the District of Columbia and vicinity (62189).
- MAXWELL, R. B. (See under American Propeller & Manufacturing Co., Baltimore, Md.)
- MAY, Col. HENRY, Washington, D. C.: Collection of modern weapons, etc. (11 specimens), a hafted stone adze from Polynesia and a Fiji war club (62070).

- MAYNARD, GEORGE C., U. S. National Museum: Commission of John Maynard as second lieutenant in the militia of the Territory of Michigan, dated March 30, 1835, and signed by Stevens L. Mason, governor of the Territory (62511, loan).
- MAYNARD, MRS. LUCY J., Washington, D. C.: Hunting rifle accessories (61401).
- MEARNS, ESTATE OF Lieut. Col. EDGAR A., U. S. Army (retired) (through Dr. C. W. Richmond): 8 crayon lithographs of landscapes with buildings, published by Wilh. Hermes in Berlin (61848); a signed artist proof etching, "A Glimpse of Mount Adams," by Helen F. Blaney (62044); chromolithographs: 38 plates from the publication entitled "Explorations and Surveys for a Railroad Route from the Mississippi River to the Pacific Ocean," 12 volumes, 1853-1860, marked "U. S. P. R. R. Exp. & Surveys" (62261); a pair of skates of the Revolutionary period (62378).
- MELL, C. D., New York City: 3 photographs of plants (61373).
- MENEES, DR. THOMAS O., Nashville, Tenn.: An ancient carved stone vase and the rattle-form leg of an earthenware vessel, obtained by the donor on the Patuca River, Spanish Honduras, Central America (61466).
- MENOMINIE MILLING Co., Menominee, Wis.: 8 samples of barley products (61960).
- MERCK & Co., New York City (through The Barrett Co.): Specimen of coal products—hydroquinone (61684); 43 specimens of nonproprietary synthetic chemicals (62578).
- MERRIAM, DR. C. HART, U. S. National Museum: 2 specimens of plants from California (type specimens of *Arctostaphylos nissenana* (62455); type specimens of a plant, *Arctostaphylos mewukka* (62484).
- MERRILL, MRS. GEORGE, Washington, D. C.: Marble statue of "Puck" by Harriet Hosmer, 1856 (pedestal of dark purple marble veined in lighter color) (62208).
- MERRILL, DR. GEORGE P., U. S. National Museum: Frog, 3 fishes and some insects from Maine (61473); fern, *Dryopteris fragrans*, from Maine (61509).
- MERRILL CHEMICAL Co., THE WILLIAM S., Cincinnati, Ohio: Sample of natural oil of birch, 2 samples of salicylic acid, and 4 samples of salicylates (62129).
- MESTAYER, Miss MARJORIE K., Wellington, New Zealand: Specimen of mollusk, *Scissurella regia*, paratype, from New Zealand (61502).
- METCALF, DR. MAYNARD M., Oberlin College, Oberlin, Ohio: 5+specimens of *Salpa*, *Cyclosalpa floridana*, solitary and aggregate forms collected at the Tortugas, June, 1917 (62001); 4 lots of *Salpa*, consisting of 3 lots of *Apsteinia asymmetrica*, solitary and aggregated forms from the west coast of Ireland, and 1 lot, 50+fragments of *Doliolum tritonis*, from the west coast of Ireland (62297).
- MEXICO, MEXICO, NATIONAL MUSEUM OF NATURAL HISTORY OF MEXICO: 2 sperm whale teeth (63042).
- MICHIGAN AGRICULTURAL COLLEGE, Department of Botany, East Lansing, Mich. (through Prof. E. A. Bessey): Specimen of plant, *Laciniaria*, from Michigan (62554, exchange).
- MIGEL, J. A. (Inc.), New York City: 3 samples of novelty silk dress goods "Hindu," "Fan-Ta-Si," and "Moon-Glo-Crepe" (62138).
- MILLER, GERRIT S., jr., U. S. National Museum: Tape matches, 3 strips, from Burgos, Spain (61331); 4 specimens of plants and a starling, *Sturnus vulgaris*, from Virginia (61487, 62303); specimen of mole, *Scalopus* (62062).
- MILLER, W. Z., Pittsburgh, Pa.: A small collection of fossils from Columbia, South America (61783).
- MILLNER, I. B. (See under Farragut, Estate of Loyall.)
- MILWAUKEE, PUBLIC MUSEUM OF THE CITY OF, MILWAUKEE, WIS. (through Ward's Natural Science Establishment, Rochester, N. Y.): 4 specimens of minerals—bismutoferrite, ritting-

- MILWAUKEE, PUBLIC MUSEUM OF—CON.
erite, sternerbergite, and uraconite
(61787, exchange).
- MINERAL PRODUCTS CORPORATION, Alu-
nite, Utah (through Howard F. Chap-
pell): A small flint arrow point from
Plute County, Utah (62485).
- MJASDRIKOFF, IVAN, Gouv. Wladimir,
Russia: 4 plates illustrating repro-
ducing butterflies in natural colors
by transferring their scales to plates
(61516).
- MONSANTO CHEMICAL Co., St. Louis,
Mo. (through The Barrett Co., New
York City): 3 specimens of coal
products—acetphenetidin, saccharin,
phenolphthalin (61692).
- MOORE, MOSES, Ouray, Utah: Specimen
of sandstone impregnated with blue
coloring material (ilsemannite)
(62524).
- MOORE, DR. RILEY D., Washington,
D. C.: 42 specimens of walrus and
mastodon ivory, collected by Dr.
Moore in Alaska (61422, loan).
- MORRIS, MRS. JOHN SPEED. (See under
Mrs. Allen M. Sumner, jr.)
- MORSE, EDWARD L., Birches, Me.: A
collection of card photographs of
prominent telegraph men, 57 in num-
ber (61330).
- MORTON, DR. WILLIAM J., New York
City: Miscellaneous personal relics
of Dr. William T. G. Morton (1819-
1868), and a collection of manuscript
and printed material relating to his
career (1,030 specimens); a complete
human skull, 2 fragmentary human
skulls, and 1 jaw; fragments of iron
knife blades, brass vessel, etc., and
3 powderhorns (Indian remains
found at Quincy, Mass.) (62243).
- MOSELEY, E. L., Sandusky, Ohio: 4
specimens of plants, *Laciniaria*
(62440).
- MOSER, MRS. JAMES HENRY, Washing-
ton, D. C.: A landscape in oil, en-
titled "Clearing up" in the Berk-
shires, by James Henry Moser
(62247, loan).
- MOSES, MRS. STANFORD E., Washington,
D. C.: 4 pieces of Peruvian pottery
(3 vessels and 1 fragment) (62507).
- MOSIER, C. A., Homestead, Fla.: 5 tree
frogs and a box tortoise from Florida
(61807); (through Mr. W. E. Saf-
ford); 7 snake eggs and 1 snake from
Florida (62184); (through W. E.
Safford and T. Wayland Vaughan)
oolitic limestone from near Paradise
Key, Fla. (62157); 17 insects and
spiders (61929); 2 crayfishes, *Cam-
barus fallax*, from Paradise Key,
Royal Palm State Park, near Home-
stead, Dade County, Fla. (62453);
(through Bureau of Biological Sur-
vey, U. S. Department of Agricul-
ture) 20 eggs of soft-shelled turtle
(62477). (See also under Florida
Federation of Women's Clubs.)
- MOXLEY, GEORGE L., Los Angeles, Cal.:
Specimen of fern from Mexico
(61348).
- MOYLE, RUSSELL, Osceola, Nev. (through
Interior Department, U. S. Geologi-
cal Survey): A specimen of lime-
stone replaced by scheelite and silica
from Sacramento Pass, Snake Range,
White Pine County, Nev., collected
by Mr. Frank L. Hess (62197).
- MUNROE, HALL, and HOPKINS, Wash-
ington, D. C.: A specimen of barium
chlorate crystals prepared by Mr.
Treadway B. Munroe (61890).
- MUSEU PAULISTA. (See under São
Paulo, Brazil.)
- MUSEU ROCHA. (See under Ceara,
Brazil.)
- MUSEUM OF COMPARATIVE ZOOLOGY.
(See under Harvard University.)
- MUSEUM OF THE AMERICAN INDIAN,
HEYE FOUNDATION, New York City:
A representative collection of pot-
sherds, stone axes, and petaloid celts,
80 specimens, from St. Croix and St.
Thomas, Virgin Island Group (61982,
exchange); (through Theodoor de
Booy) Fossil land shell, *Pleuro-
donte debooyi*, type of new species,
from kitchen-middens at Salt River,
northern coast of St. Croix, Virgin
Islands (62056).
- MYERSTON, ARTURO R., Curaçao, Dutch
West Indies: 2 specimens of orchids
(61543).

- NATIONAL ANILINE & CHEMICAL CO., New York City (through The Barrett Co.): 2 specimens of coal products—betanaphthol dyestuff "nigrosine B" (61688); 91 specimens of domestic dyestuffs and other coal products (62573).
- NATIONAL FERTILIZER ASSOCIATION, Baltimore, Md. (through Mr. Sidney B. Haskell): A full set of lecture charts (61485).
- NATIONAL LEAD CO., New York City: Sketch 5 by 24 feet illustrating steps in lead manufacture (62574).
- NATIONAL SOCIETY OF THE COLONIAL DAMES OF AMERICA, Washington, D. C.: A tortoise-shell snuffbox owned by the Hon. John Barclay, mayor of Philadelphia in 1791, and a fan of Chinese workmanship owned by Mrs. Barclay, lent to the Society by Edward Trenchard (61852, loan).
- NAVY DEPARTMENT:
U. S. Naval Academy: A collection, including minerals, rocks, fossils, and woods (62556).
- NELSON, Prof. AVEN, Laramie, Wyo.: 1,250 plants (gift) and 50 plants (purchase) from Alaska and Idaho (61506); 8 specimens of plants from Alaska (61781).
- NEUENHAHN, Mrs. WILLIAM E., Washington, D. C.: A Graeco-Roman silver didrachm issued by the city of Caesarea during the reign of the Emperor Hadrian, 117–138 A. D. (62401, loan).
- NEVILLE, Mrs. ANNETTE SMITH, Vergennes, Vt. (through Dr. Charles F. Langworthy, Washington, D. C.): A collection of visiting cards, and invitations, dated about 1870 (61592).
- NEWTON ARMS Co. (Inc.), Buffalo, N. Y.: Sporting rifle (61861).
- NEW YORK BOTANICAL GARDEN, Bronx Park, New York City: 133 specimens of plants from Bolivia (61310, 61345); specimen of fern and 5 specimens of mosses from Florida (61306, 62281); 27 specimens of plants and 86 photographs of plants (61544, 61639, 61828, 62359); 320
- NEW YORK BOTANICAL GARDEN—Contd.
 specimens of plants from the West Indies (61553, 61990, 61997, 62126, 62183, 62293, 62299, 62344, 62438, 62490); specimen of plant from New Jersey (61620); 58 specimens of plants (61629, 61713, 61833, 61923). Exchange.
- NEW YORK STATE COLLEGE OF FORESTRY, THE, Syracuse University, Syracuse, N. Y.: 31 hand samples of domestic commercial woods, 3 by 4 inches (62417).
- NEW YORK STATE MUSEUM, Albany, N. Y. (through Dr. H. D. House, State botanist): Specimen of plant from New York State (61786, exchange).
- NICHOLSON, Col. JOHN P. (See under War Department.)
- NORTH DAKOTA AGRICULTURAL COLLEGE, Agricultural College, N. Dak. (through Prof. O. A. Stevens): 26 specimens of plants from North Dakota (61941).
- NORTHWESTERN COLLEGE, Department of Biology, Naperville, Ill. (through A. C. Walton): 4 specimens of plants, *Laciniaria* (62330, exchange).
- NORTON, J. B., U. S. Department of Agriculture, Washington, D. C.: Specimen of plant, *Galax aphylla*, from Virginia (61635); 2 specimens of plants from China (61952, exchange); 5 specimens of Chinese plants (61984).
- OSERHOLSER, Dr. H. C., Bureau of Biological Survey, U. S. Department of Agriculture, Washington, D. C.: 27 specimens, 4 species, of mollusks from Swan Lake, Nicollet County, Minn. (61478).
- OSERLIN COLLEGE, Oberlin, Ohio (through Prof. F. O. Grover): 200 specimens of plants from Ohio (62325, exchange).
- OHIO STATE UNIVERSITY, Department of Botany, Columbus, Ohio (through Prof. John H. Schaffner): 2 specimens of plants, *Lycopodium*, from Ohio (61999, exchange).

- OHLSON, CARL A.**, Washington, D. C.: Silver, nickel, and bronze coins and tokens of the United States, Belgium, Denmark, Germany, Great Britain, Guatemala, Mexico, Netherlands, Norway, and Sweden (27 specimens) (61617).
- OLIPHANT, MRS. NELSON B.**, Trenton, N. J. (through Mrs. Julian-James, Washington, D. C.): Tortoise-shell comb, embroidered cap, and 2 fancy-work watch pockets of the early part of the nineteenth century; also 11 bonnets, a pair of mitts, a pair of slippers, a waist, a nightcap, a shawl, and scarf of the latter part of the nineteenth century (62515, 62532). Loan.
- OLIVER, JAMES**, Chignak, Alaska: Freak kitten, *Felis domestica* (61567).
- ORCUTT, CHARLES R.**, San Diego, Cal.: Fishes, 50+specimens of crustaceans and mollusks, and a lizard; 83 specimens of echinoderms, alcyonarians, and sponges; 25 specimens, 4 species, of mollusks, and 4 specimens, 1 species, of corals, all from Magdalena Bay, Cal. (61360, 61761, 62225); 6 sponges; 2 actinians; 4 specimens, 3 species, of Madreporarian corals, including the type of a new species; 3 bryozoans; 1 sipunculid worm; 2 echinoderms; 106 specimens, 31 species, of crustaceans; about 200 specimens, 109 species, of mollusks including the type of 6 new species, and 2 ascidians from Magdalena Bay (62041).
- OREGON STATE AGRICULTURAL COLLEGE**, Corvallis, Oreg. (through Prof. William E. Lawrence): 479 specimens of plants from Oregon (61940, 61978, 62153, 62289, 62472).
- ORGANIC SALT & ACID Co.**, Long Island City, N. Y. (through The Barrett Co.): 7 specimens of coal products—methyl salicylate, salicylamid, salol, sodium salicylate, amido phenol, salicylic acid, paranitrophenol (61690).
- ORIENTAL FOUNDATION, THE**, New York City: 10 colored plates representing the principal Egyptian deities (61721).
- ORIENTAL SILK PRINTING Co.**, New York City: Sample of discharge-printed silk—"Wedgewood Print" (62224).
- OSBOEN BOTANICAL LABORATORY**, Yale University, New Haven, Conn. (through Dr. Alexander W. Evans): 170 specimens of Hepaticae from Quebec and New Hampshire (61796, exchange).
- OSTENFELD, DR. C. H.** (See under Copenhagen, Denmark, Universitets Botaniske Museum.)
- OTTO WEISS MILLING Co.**, THE, Wichita, Kans.: 5 samples of cereal products made from kafir corn and feterita (61961).
- OUTERBRIDGE, MRS. ADOLPH J.**, Washington, D. C.: Samples of limonite gossan from Kathleen Mine, Rivanna district, Albemarle County, Va. (61500).
- OWEN, COL. W. O.**, U. S. Army, Army Medical Museum, Washington, D. C.: Edison telephone signaling bell, 1880; Edison signaling bell, 1880 (61419, 61574).
- OVERMAN, C. I.**, Warren, Wyo.: 9 specimens of fossils from the Foxhills sandstone, Niobrara County, Wyo. (62282).
- PACK, HERBERT J.**, Salt Lake City, Utah: 49 lizards, *Phrynosoma*, from Salt Lake City, Utah (61996).
- PAINE LUMBER Co. (Ltd.)**, Oshkosh, Wis.: Frame with pair of veneered mahogany entrance doors and elliptical panel transom; 7 veneered doors; 5 sample pieces showing method of door construction; table of veneered curly red birch; also installation fixtures for the above, consisting of pedestals, pilasters, columns, panel work, platform, and mouldings, all of selected curly red birch (61895).
- PALMER, WILLIAM**, U. S. National Museum: Whale-oil lamp of pressed and blown glass, 1790 (61471, loan); hoary bat, *Nycteris cinerea* (61837); 5 prairie horned larks, *Otocoris alpestris praticola*; a cowbird, *Molothrus ater*; and a lizard; all from Virginia (62053, 62308).

- PARKE, Mrs. GEORGE J., Norfolk, Va.: Portrait of Mrs. Elliott, portrait of Mrs. John O'Donnell, her daughter, portrait of Mary O'Donnell, her granddaughter, painted by Charles W. Peale about 1800; portrait of George Washington by C. Polk, 1792 (61572, loan).
- PARKER, W. H., Salt Lake City, Utah (through Mr. Frank L. Hess and Mr. Victor C. Helkes): A specimen of galena with crystals of anglesite from the Eagle and Blue Bell mine, Tintic District, Juab County, Utah (61394).
- PENNELL, JOSEPH, Care Miss Leila Mechlin, secretary, American Federation of Arts, Washington, D. C.: A collection of 99 lithographs and 9 etchings of war work in Great Britain and the United States by Joseph Pennell, made with the consent of the U. S. Government (61826, loan).
- PENNSYLVANIA DEPARTMENT OF AGRICULTURE, Bureau of Economic Zoology, Harrisburg, Pa. (through Mr. P. T. Barnes): 5 slugs of the species *Limax maximus*, collected in a greenhouse (62305).
- PENNSYLVANIA, UNIVERSITY OF (through Dr. John M. Macfarlane, director of the Botanic Garden, Philadelphia, Pa.): 257 specimens of plants from Formosa and Switzerland (61794, exchange).
- PENNY, HARRY E., Boulder, Colo. (through Mr. Frank L. Hess): A specimen of crystallized ferberite from the Gale mine, Nederland, Colo. (62493).
- PERELMA, OSSIP, Washington, D. C.: 2 portraits in oil, by the donor, of Boris Bakmeteff, first ambassador from the Russian Republic, and Frank B. Noyes, president of the Associated Press and editor of the Evening Star (61643).
- PEREZ, GILBERT S., industrial supervisor, Lucena, Tayabas, P. I. (through Hon. Jaime C. de Veyra): 6 mollusks representing the species *Chloraea amoena* from Luzon, P. I.
- PEREZ, GILBERT S.—Continued. (62340); 27 mollusks from Bohol, P. I., including types and paratypes of 5 new subspecies (61773).
- PERTH, WESTERN AUSTRALIA, PUBLIC LIBRARY MUSEUM AND ART GALLERY OF WESTERN AUSTRALIA (through Bernard H. Woodward, director): 13 mammals, 12 reptiles and batrachians and 11 birds from Australia (61561, exchange).
- PERUVIAN EXPEDITION OF 1914-15 (under the auspices of Yale University and the National Geographic Society, Dr. Hiram Bingham, director): 884 mammals and 152 specimens of amphibians and reptiles from Peru (61797, 62557).
- PETERS MILL Co., M. C., Omaha, Nebr.: 2 samples of alfalfa meal and 11 samples of stock feeds (61971).
- PEYSERT, M. S., McNeal, Ariz.: Portion of skull of deer, *Odocoileus*, and portion of skeleton of bobcat, *Lynx* (61632).
- PHILIP, HOFFMAN, Washington, D. C.: Specimen of the European bittern, *Botaurus stellaris*, from near Constantinople, Turkey (61841).
- PHILIPPINE ISLANDS, GOVERNMENT OF THE, Manila, P. I.:
Bureau of Science: 2,108 specimens of Philippine plants (61414, 61479, 62094, 62205); 211 drawings of plants (61661); 187 specimens of mosses (62386). Exchange.
- PICKETT, Prof. F. L. (See under Washington, State College of.)
- PIERCE, Dr. W. DWIGHT, Bureau of Entomology, U. S. Department of Agriculture, Washington, D. C.: 2 supernumerary teeth and 1 cast of an upper jaw (61896).
- PILLSBURY, Rear Admiral J. E., U. S. Navy (retired). (See under Miss Susie Z. Preble.)
- PINEDA, Señor DON GABRIEL H., editor of El Comerces, Barranquilla, Colombia, South America (through Mr. Isaac A. Manning): Photograph of ancient pottery and other relics in the collection of the donor (61368).

- PIONEERS OF ALASKA**, Nome, Alaska (through Mr. Charles W. Thornton, grand secretary-treasurer): 20 specimens of plants from Alaska (61671).
- PIPER**, Prof. C. V., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.): 7 specimens of plants (61989, 62416).
- PITTIER**, Prof. H., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.: 75 specimens of ferns from Costa Rica, collected by Mr. A. Tonduz (61474).
- PLUMMER**, Mrs. J. H., Philadelphia, Pa.: A set of 32 carved ivory chessmen and a lacquered chessboard from China, lent in memory of John A. Hebrew (61616, loan).
- POAST**, Miss FLORENCE M., Bureau of American Ethnology, Washington, D. C.: Porcelain plaque (design two dragons in sanguine) of Chinese imperial ware, Emperor Kuang Hsu, 1875 (61511); an East Indian silver coin of the seventeenth century; and a Turkish bronze coin of the nineteenth century (61602).
- POMONA COLLEGE**, Claremont, Cal. (through Dr. William A. Hilton): 8 specimens, 7 species, of decapod crustaceans from the vicinity of Laguna Beach, Cal. (62017).
- PORTER**, Dr. CARLOS E., Museo y Laboratorio de Zoología Aplicada, Instituto Agrícola de Chile, Santiago, Chile: 8 specimens, 3 species, of parasitic copepods and 1 leech, all parasitic on fishes from the southern channels of Chile (61636).
- POST OFFICE DEPARTMENT**: 9 sets of specimens stamps, etc., in triplicate (1,506 specimens) received from the International Bureau of the Universal Postal Union, Berne, Switzerland (61366, 61446, 61630, 61734, 61844, 62040, 62195, 62496, 62558); 3 imperforate sheets of 400 United States 2-cent postage stamps printed from plate No. 7942, each sheet containing three misprinted 5-cent stamps (62166).
- POWELL**, Prof. S. L., Salem, Va.: 12 specimens of fossil bones from a cave deposit near Cumberland, Md. (61371).
- POWERS**, SIDNEY, Troy, N. Y.: 9 recent mollusks and 2 pieces of sedimentary earth with mollusks embedded therein from the hills and shore on the east side of Lake Izabal, Livingston, Guatemala (61426); (through Dr. T. W. Stanton) a small collection of Tertiary fossils from eastern Guatemala (62140).
- POWERS**, WEIGHTMAN & ROSENGARTEN, Philadelphia, Pa. (through The Barrett Co., New York City): Specimen of coal product—sulfur (61698).
- PREBLE**, Miss SUSIE Z., Boston, Mass. (through Rear Admiral J. E. Pillsbury, U. S. Navy, retired): Snuffbox owned by Rear Admiral Charles Stewart, U. S. Navy (1778-1869) (61912).
- PRESTAGE**, ARTHUR, Keansburg, N. J.: Mole cricket, *Gryllotalpa hexadactyla* (61717).
- PRICE**, LESLIE, Jamestown, N. Y.: Commission of Harvey Price as lieutenant of infantry, New York State Militia, dated June 1, 1839, and signed by Gov. William H. Seward and Adj. Gen. Rufus King (61943).
- PROTSMAN**, W. R., Vevay, Switzerland County, Ind.: A magnetizing instrument (61723, loan).
- PUBLIC LIBRARY MUSEUM AND ART GALLERY OF WESTERN AUSTRALIA**. (See under Perth, Western Australia.)
- PUBLIC SCHOOL**, Lake Bathurst, New South Wales, Australia: 22 specimens, including fossils and minerals (62456, exchange).
- QUAKER OATS CO., THE**, Chicago, Ill.: Sample of oat flour and 5 samples of oat meal (61869).
- QUINTER**, G. E., Washington, D. C.: 145 specimens of insects from Clarksville, Tenn. (62390).
- QUINTON**, Rev. JOHN W., Harpers Ferry, W. Va.: Printed silk crêpe shawl (62273, loan).
- RAFFERTY**, J. P., U. S. N. Training Station, Charleston, S. C.: Moth, *Telea polyphemus* (62285).

- RANDOLPH, Miss MARY, Washington, D. C.: A doll dressed in the costume of an Armenian woman (62506).
- RATHBUN, Dr. MARY J., U. S. National Museum: Specimen of plant, *Arenaria groenlandica*, from New York (61483); 3 specimens of land shells, *Polygyra albolabris*, from Cragmoor, Ulster County, N. Y. (61551); 4 specimens of mosses from New York State (61640).
- REATH, ELIZA A. (See under Mrs. Florence W. Bernadou.)
- REED, Mrs. WALTER, Washington, D. C. (through D. I. Bushnell, jr.): 2 trench candles, 1 dipped in paraffin and the other before dipping (62058).
- REID, F. R., care Soils Fertilizer Investigation, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.: A specimen of fossil wood from Petworth, D. C. (61740).
- REID, VOLNEY T., Salem, Ind.: Nest and 1 egg of red-winged blackbird, *Agelaius phoeniceus*, from Indiana (61501).
- REILING & SCHOEN (Inc.), New York City: 2 samples of printed silk poplin, "Sportoplin" (61392).
- REKO, Dr. B. P., Oaxaca, Mexico: 204 specimens of plants from Mexico (61519, 62039, 62346, 62382).
- REMEY, CHARLES MASON, Washington, D. C.: A series of architectural drawings by Charles Mason Remey, being preliminary designs showing varying treatments in different styles of architecture for the proposed Bahai Temple which is to be built on the shores of Lake Michigan in Chicago, Ill. (29 framed drawings, etc.) including 19 in colors, 1 framed and 12 unframed labels (62135, loan).
- RICHARDS, C. F., New York City: 5 postage stamps of Hawaii, issue of 1893, with counterfeit overprints (61942).
- RICHARDS, Dr. THEODORE W., U. S. Navy, Washington, D. C.: Collections of birds' eggs from various parts of the world (said to contain about 12,000 specimens) (61517, deposit).
- RICHARDSON, Mrs. CHARLES W., Washington, D. C. (through Mrs. Julian-James): 2 baby's linen shirts of the early part of the nineteenth century and a bound volume entitled "The Tailor-Made Girl," by Philip H. Welch, published in 1888 (62516, loan).
- RICHMOND, Dr. C. W. (See under Mearns, Estate of Lieut. Col. E. A.)
- RIDDLE, Prof LINCOLN W. (See under Wellesley College.)
- RIDGATE, THOMAS H., sr., Washington, D. C.: A military manuscript account book of the State of North Carolina, containing accounts of the War of 1812-1815, and 2 United States Treasury drafts issued in 1827 (61329).
- RIDGLEY, WILLIAM GARRET, New York City (through Bureau of Mines): A specimen of tungstenite from the Emma Consolidated Mines at Alta, Utah (62002).
- RIDGWAY, ROBERT, Olney, Ill.: 20 bird skins from Olney (62120).
- RIGGS, B. A., Kanab, Utah: A wooden digging implement from a small cliff dwelling at the head of Cottonwood Canyon, near Kanab, Utah, found by the donor (62479).
- RILEY, J. H., U. S. National Museum: Jumping mouse, *Zapus*, and 1 Bewick's wren, *Thryomanes bewickii*, from Falls Church, Va. (61858).
- ROBBINS, JOHN WILLIAMS, Farmington, Conn.: 6 specimens representing the making of a "Brulegravure" (burnt engraving) (62452).
- ROCHA, Senhor DIAS DA. (See under Ceara, Brazil, Museu Rocha).
- ROCKLAND SILK Co. (Inc.), New York City: 2 samples of silk dress goods—Camouflage crêpe and Gros de Londre (620083).
- ROCKY MOUNTAINS PARK MUSEUM, Banff, Alberta, Canada (through Dr. N. B. Sanson): 15 land shells, *Pyramidula cronkhitei anthonyi*, from Rocky Mountains Park, Banff, Alberta, Canada (61901).
- ROESSLER & HASSLACHER CHEMICAL Co., THE, New York City (through The Barrett Co.): 1 specimen of coal

ROESSLEE & HASSLACHER CHEMICAL Co., THE—Continued.

product—acetanellid (61687); 11 samples of inorganic chemicals, and 1 sample of medicinal soap (61835).

ROIG, Dr. MARIO SANCHEZ, Havana, Cuba: 8 Cuban crustaceans, including the types of 2 new isopods, *Lep-totrichus vedadoensis* and *Tylos el-ipticus* from near Vedado, Cuba (61887); 5 specimens, 3 species, of crabs from Cuba (62443).

ROHRER, Miss JOSEPHINE A., Wash- ington, D. C.: 40 ethnological speci- mens from China, Liberia, South Africa, Philippine Islands, Porto Rico, Peru, and Bermuda (61914).

ROSER, JAMES BIECH, Washington, D. C.: 15 reptiles and 1 insect from South America (62133).

ROWAN, Mrs. HAMILTON, Washington, D. C. (through Commander Stephen C. Rowan, U. S. Navy): A buffalo robe and 2 beaded blanket strips (62348).

ROYAL ONTARIO MUSEUM OF ARCHEOL- OGY. (See under Toronto, Canada.)

RUTH, JOHN A., Clifton, N. Y.: 48 specimens of plants from New Jer- sey (62014, 62131).

SAFFORD, W. E., U. S. Department of Agriculture, Washington, D. C.: 81 specimens of plants from Uruguay (62160); workbasket containing spindles for spinning cotton, and 3 pieces of Pervulan textiles, from prehistoric graves at Ancon, Peru, also an Italian gold brocade cope purchased in Venice (62568, loan). (See also under Dr. H. Byrd and Mr. C. A. Mosler.)

SAN JOSÉ, COSTA RICA, MUSEO NA- CIONAL (through Mr. A. Tonduz): 8 specimens of plants from Costa Rica (61641, 61664); 3 specimens of plants from Costa Rica (62376).

SANSON, N. B. (See under Rocky Mountains Park Museum.)

SÃO PAULO, BRAZIL, MUSEU PAULISTA (through A. d' E. Taunay, director): 131 specimens, 25 species (62083, ex- change); and 3 specimens, 2 species, of Brazilian crustaceans (62107).

SCHAFFNER, Prof. JOHN H. (See un- der Ohio State University.)

SCHMID, EDWARD S., Washington, D. C.: Specimen of parrot, *Amazona finschi* (61391); 10 small birds (61718); 2 melodius grass-quits, *Ti- aris canora*, from Cuba (61730); specimen of a crested cassique, *Cas- siculus melanicterus*, from Mexico (61793); specimen of jay, *Garrulus glandarius glazneri*, from Europe (61808); specimen of Isle of Pines parrot, *Amazona leucocephala pal- marum*, from Isle of Pines, Cuba (61854); 2 birds (62466).

SCHUCHERT, Prof. CHARLES, Peabody Museum of Natural History, Yale University, New Haven, Conn.: 12 specimens of Mississippian bryo- zoans from the Grand Canyon (61760).

SCHULENBURG OIL MILL, THE, Schul- enburg, Tex.: Sample of "Allison" cotton seed flour (61905).

SCUDDER, N. P., U. S. National Mu- seum: Frog from Forest Glen, Md. (61321).

SEA ISLAND COTTON OIL Co., Charles- ton, S. C.: Sample each of yellow soy beans, soy bean flour, victory peanut flour, and virgin cold pressed peanut oil (62476).

SEDERQUIST, J. W., Red Oak, Iowa: Sample of oat flour made from rolled oats (61945).

SELLARDS, E. H., State Geologist, Tal- lahassee, Fla.: 300 fossil land shells from Ocala, Fla. (62447). (See also under Florida, Geological Depart- ment of the State of.)

SEMET-SOLVAY Co., Syracuse, N. Y. (through The Barrett Co., New York City): 3 specimens of coal prod- ucts—salicylic acid U. S. P., sodium ferrocyanide, sodium ferricyanide (61693).

SEYS, Father MAURICE, Care Roman Catholic Mission, Mei-koel-ing-tzeu, Feng-tcheng, Shan-si, China: About 80 insects (61930).

SHANTZ, H. L., U. S. Department of Agriculture, Washington, D. C.: 39

SHANTZ, H. L.—Continued.

specimens, 3 species, of land shells collected at Sanderson, Tex., by the donor (62191).

SHAW, C. H., principal, Public School, Lake Bathurst, New South Wales, Australia: Light boomerang used to throw at a flock of birds on the wing, from Australia (61897, exchange).

SHAW, H. L., Glen Rock, Pa.: 3 specimens of cordage fibers and 7 specimens of hand and machine made cordage (61372).

SHELDON, Mrs. HENRY D. (See under Mrs. Russell A. Alger.)

SHEPHERD, Col. C. E., Bayswater, London, England: 16 specimens of fossil otoliths (61974, exchange).

SHEPPARD, WALTER B., Jackson, Wyo.: Specimens of insects (62033).

SHREVE, Dr. FORREST, Tucson, Ariz.: Specimen of plant (62091, exchange). (See also under Carnegie Institution of Washington.)

SHOEMAKER, C. R., U. S. National Museum: Specimen of plant, *Delphinium tricornne*, from Maryland (62338).

SHUFELDT, P. W., Washington, D. C.: 2 mollusks from Lake Peten, Guatemala (62105).

SHUFELDT, Maj. R. W., U. S. Army: 3 skeletons of Philippine birds (61711); lizard from Florida (62433); lizard, *Ctenosaura* (62534).

SHULER, L., Mill Hall, Pa.: Moth, *Telea polyphemus* (61461).

SICKLER, FRED M., Shungnak, Alaska: Skull and incomplete skeleton of Eskimo, Kobuk River, Alaska (61399).

SIMON, L. A., Office of the Supervising Architect, Treasury Department, Washington, D. C.: Interesting examples of scaling of granite from the basement of the Treasury Department building (62523).

SINCLAIR, Capt. CHARLES G., Port de Paix, Haiti (through Dr. William L. Abbott): Set of 3 Voodoo drums from Haiti (61540).

SLATER, Mrs. H. D., San Antonio, Tex.: 23 specimens of plants from Texas (62151, 62260, 62462, 62545).

SLAV PRESS BUREAU, Tribune Building, New York City: 4 recruiting posters published by the Slav Press Bureau in 1917 (61369).

SLOANE, CHARLES F., Globe, Ariz. (through J. S. Diller): A cross fiber vein of chrysotile asbestos (62051).

SMITH, ALLYN G., Los Angeles, Cal.: 3 specimens of mollusks, *Turbonilla (Strioturbonilla) dracona*, from Reef Point, Orange County, Cal. (61458).

SMITH, Prof. EUGENE A. (See under Alabama, Geological Survey of.)

SMITH, Capt. JOHN DONNELL, Baltimore, Md.: 5 specimens of plants from Costa Rica (62363, 62456).

SMITH, MAXWELL, Washington, D. C.: 2 mollusks, cotypes, *Oreohelix haydeni betheli* form *glenwoodensis*, and 4 mollusks, cotypes, *Oreohelix haydeni betheli*, from near type locality, all from north side of river, Glenwood Springs, Colo. (62000).

SMITH, Miss NELLIE H., U. S. National Museum: Cuban Army canteen (62262).

SMITHSONIAN INSTITUTION:

Original full-size Langley flying machine (62003, deposit); fossil bones of mammoth, rhinoceros, and horse collected in Siberia by John Koren (62230, collected for the Museum); 9679 specimens of Middle Cambrian fossils from British Columbia (62353, deposit); duplicate set of cylinders for the original full-size Langley flying machine (62399, deposit).

Bureau of American Ethnology: 7 baskets made by the Koasati Indians of Louisiana; arrow points, spearheads, etc., from the vicinity of Rock Hill, S. C. (18 specimens), and specimens obtained from the Catawba Indians at Roddey, S. C., during the spring of 1918, all collected by Dr. John R. Swanton (61315, 62535, 62577); roughly chipped implement of gray limestone from British Guiana, presented to the Bureau by Dr. Walter E. Roth (61325); 6 ethnological specimens of the Mandan,

SMITHSONIAN INSTITUTION—Contd.

Sioux, Ute, and Chippewa Indians, purchased by the Bureau from Miss Frances Densmore (61573); a loom of the Osage Indians collected by Francis LaFlesche (62013); 12 specimens of plants from Minnesota, collected by Miss Densmore (62190); 25 stone objects from the Huastec region, Mexico, presented to the Bureau by John M. Muir, Tampico, Mexico (62253); 2 pottery fragments received from Carriacou and Caicos Islands, British West Indies (62564).

National Museum, collected by members of the staff: Bassler, R. S.: 7 large exhibition specimens illustrating unconformities, conglomerates, etc.; 200 fossils and large limestone slabs; and 600 specimens of quartz, chert, conglomeratic marble, and limestone; also about 150 specimens, including 2 large exhibition specimens, of rock phosphate and phosphatic limestone from Wallace, Ky., obtained through the courtesy of the United Phosphate & Chemical Co. (61668, 61855). Hough, Walter: Archeological specimens (49) collected at Luna, N. Mex., during June, 1917 (61337). Martin, J. C.: Collections of rocks to illustrate rock weathering, including granite-gneiss, diabase, soapstone, gabbro, sandstone, and limestone from Virginia and Maryland (62536). Maxon, William R.: 190 specimens of plants from the vicinity of Washington, D. C. (62045, 62540). Maxon, William R., and Paul C. Standley: 60 specimens of plants from the vicinity of Washington, D. C. (62539). Merrill, George P.: A collection, including albite, columbite, pitchblende, black mica, staurolite, bauxite, quartz, etc., from North Carolina and Georgia (62537). Miller, Gertrude S., jr.: 36 specimens of batrachians from Virginia (61476). Standley, Paul C. (see under William R. Maxon). Wherry, Edgar T.: 20 mineral specimens from Amelia, Va. (61407).

SMITHSONIAN INSTITUTION—Contd.

National Museum, obtained by purchase: A 500-gram meteoric stone from Eustis, Fla. (61572); postage stamps of French New Hebrides, Hungary, Papua, and Seychelles (44 specimens); of Germany and Great Britain issued 1906-1913 (24 specimens) (61891, 62117); also of New Britain, issued 1914-15 (6 specimens) (62403); porpoise skull and rib bones (61415); 229 specimens of Mexican plants collected by C. A. Purpus (62450); 38 turtles from Georgia and Florida (62500); 62 photographic prints of archeological subjects, mainly Mexican; 1 Mexican hieroglyphic manuscript of 12 pages, folded Japanese fashion (61457); pepper-box pistol (61973); miscellaneous collections of plants, namely, 336 from Missouri (62212), 1,249 from China (61716, 62043, 62360), 1,000 chiefly from Venezuela and Curaçao (62451), 52 from East Africa (61507), 183 from Africa (61480), 786 from Japan and 822 from China (61344), 631 from California and Oregon (61365, 62312), 648 from Argentina (61305), 25 specimens (62028), 150 specimens from Magdalena Island, Lower California (61798), 458 specimens from Washington (61856); 100 specimens of algae (Phycotheca Boreali-Americana, Fascicles XLIV and XLV) (61364); postage stamps of the United States, Austria, Hungary, Germany, Great Britain, Haiti, Italy, Peru, and Sweden (112 specimens); also 35 specimens of United States and foreign postage stamps issued 1882-1916 (62098, 62562); 11 ethnological specimens from the Sioux, Hidatsa, and Chippewa Indians, also 10 stone artifacts, etc., found on the White Earth Reservation in Minnesota during the summer of 1917 (61452, 62231); 6 skins of thick-billed parrot, *Rhynchopsitta pachyrhyncha*, from Arizona (62074); postage stamps of Austria, Camerons, Cayman Islands, French In-

SMITHSONIAN INSTITUTION—Contd.

dia, French Oceanica, Gabon, Italy, Marshall Islands, Mozambique, Straits Settlements, Tunis, and Trinidad and Tobago, issued 1914-17 (44 specimens) (62561); 72 cut and polished variscite gem stones (61976); 23 lantern slides illustrating geological and paleontological subjects (61959); 11 samples of cotton and silk, and cotton dress goods, 4 samples of shibori cotton, and 5 samples of Japanese shibori challie (62219); a pair of spring candle-snuffers, old English (61680); large cluster of milky quartz crystals and 4 selenite crystals (62498); 2 crystals of pyrite (62547); a doll of the early part of the nineteenth century (61817); naval signal pistol (61492); skull and cervical vertebrae of river dolphin from Tung Ting Lake, China (61644); 1 alforjas (2 bags of fine fiber cord), and 1 netted carrying bag from Guatemala (62333); postage stamps of Great Britain, issued in 1904-09 (4 specimens) (62115); 110 specimens of fossil insects in copal resin (61801); postage, newspaper, and official stamps of the Australian Commonwealth, Belgium, Cayman Islands, Denmark, Fiji Islands, Italy, and Liberia (21 specimens) (61853); British colonial postage stamps issued 1904-1915 (20 specimens) (62492); British colonial postage stamps issued 1905-08 (27 specimens) (62171); postage stamps of Abyssinia, Australian Commonwealth, China, Russia, and Togo, issued 1905-1915 (62366); 17 opalized shells from the Cretaceous formation of South Australia (61700); ten-shilling postage stamp of South Australia, issued 1904 (61846); postage stamps of Gibraltar, New Zealand, and South Australia, issued 1902-1908 (37 specimens) (62263); set of 74 models of 100 calorie portions of ordinary articles of diet (62223); 25 bird skins (61378); 3 flintlock pistols (61669); a collection of swords and firearms (10 pieces) (62324); 4 specimens of fos-

SMITHSONIAN INSTITUTION—Contd.

sil turtles (62354); a septarian nodule, originally iron carbonate, now altered to limonite (62428); 500 specimens of Cretaceous invertebrate fossils from Tennessee (61562); 4 samples of Japanese shibori silk crepe, a sample of crackle batik pongee, and a sample of batik-printed satin (62220); 2 casts of ancient skulls, colored, as follows: Brno (Brünn), Moravia, Cranium I, Pohlig, and Brno, Moravia, Cranium II (61351); a 1,314-gram slice of the Carleton siderite, a specimen of native iron from Greenland, a galena crystal from Illinois, and a beryl crystal from Siberia (62123); skeleton of the Mediterranean seal, *Monachus* (62334).

National Museum, made in the Anthropological Laboratory: Plaster casts (in triplicate) of a stalactite image found in the clay banks of Randolph County, Ill., near the mouth of the Kaskaskia River, the property of the Very Rev. Urban de Hasque, chancellor of the diocese of Oklahoma (61328); plaster cast impressions of 51 oriental seals, the originals of which are the property of Prof. H. Hyvernart, of the Catholic University of America (61568); plaster copies of the bust of George Washington by J. A. Houdon, the casts of the face and hands of Abraham Lincoln by Leonard W. Volk, and the cast of the face of Abraham Lincoln by Clark Mills (61665); plaster casts (in triplicate) of a stone pipe—the original, from Arkansas, the property of Mr. J. G. Braecklein, Kansas City, Kans. (62069); plaster casts (in triplicate) of 2 archeological pipes from Utah (62099).

National Museum, Division of Exhibits, Department of Biology: 6 bear-skull casts, made in the Museum (61430).

National Museum, made in the Laboratory of Mineral Technology: Fertilizer chart, about 4½ by 13 feet (61704).

SMITHSONIAN INSTITUTION—Contd.

National Zoological Park: Giant turtle, *Testudo ephippium*, from Galapagos Islands (61320); skins and skulls of 2 mountain sheep and 1 tiger, and skull of a cinnamon bear (61342); Canada goose, *Branta canadensis*, in the down (61388); demoiselle crane, *Anthropoides virgo*, great bustard, *Otis tarda*, and sharp-shinned hawk, *Accipiter velox* (61398); skull, trunk, and front feet of an elephant, 1 blessbok, 1 tapir, 1 black buck, and 2 mountain beavers (61666); mountain beaver, *Aplodontia rufa* (61672); crested screamer, *Chauna cristata*, Indian marabou, *Leptoptilus dubius*, and kea parrot, *Nestor notabilis* (61715); yellow-headed amazon, *Amazona ochrocephala*; white-throated laughing-thrush, *Garrulax albigularis*, and namaqua dove, *Oena capensis* (61741); European flamingo, *Phoenicopterus antiquorum* (61809); skins and skulls of a black phalanger and of a murine opossum, skull of a wolf, and 1 armadillo in alcohol (61838); skin, skull, and skeleton of a tapir and also of a sable antelope (61970); Australian wild dog, *Canis dingo* (62134); 2 specimens of snowy heron, *Egretta candidissima*; black duck, *Anas rubripes*; cassowary, *Casuarius*, species; horned grebe, *Colymbus auritus*, and whydah finch, *Steganura paradisea* (62162); blue-headed quail-dove, *Starnoenas cyanocephala*, and crested screamer, *Chauna torquata* (62240); paradise widow bird, *Steganura paradisea*; rufous-winged flycatcher, *Pitangus sulphuratus rufipennis*; Himalayan white-crested laughing-thrush, *Garrulax leucolophus*; black-bellied tree-duck, *Dendrocygna autumnalis*, and blue-headed quail-dove, *Starnoenas cyanocephala* (62425); Cape Barren goose, *Cereopsis novaehollandiae* (62491); 14 specimens of reptiles from various localities (62570).

University of Utah Expedition: Archeological specimens and skeletal remains collected during July and

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August, 1917 from a large mound on the farm of Isaac Bozarth at Paragonah, Iron County, Utah. This material comprises the Institution's share of material resulting from the joint Smithsonian Institution-University of Utah Expedition of 1917, Neil M. Judd representing the Institution (1,204 specimens) (62432, collected for the Museum).

SMYTH, Lieut. Commander W. W., U. S. Navy, and Mrs. W. W. SMYTH, Washington Navy Yard, Washington, D. C.: An antique marble urn with decorative carvings, which was owned by Stephen Girard, also a marble slab (61722, loan).

SNAPP, G. U., Metolius, Oreg.: Samples of opalescent silica, fibrous to massive (61725).

SOWERBY, ARTHUR DE C., London, England: 110 mammal skins and skulls, 536 birds, 33 fishes, 32 reptiles, and a small collection of insects collected in China (62459, collected for the Museum).

SPAINHOUR, CHARLES A., Morganton, N. C.: A discoidal stone, a long polished celt and 2 carved stone pipes from North Carolina, part of the private collection of the late Dr. J. M. Spainhour, now presented by his son (62368).

SPALDING & BROTHERS, A. G., Chicago, Ill.: 10 specimens illustrating the manufacture of a baseball bat and 5 finished bats of various qualities (61535).

SPEERY FLOUR Co., San Francisco, Cal.: 2 samples of rice products and 3 samples of barley products (61963).

STANTON, Dr. T. W. (See under Sidney Powers.)

STARKWEATHER, Mrs. EMMA LOOMIS, Port Huron, Mich.: A white ironstone pitcher with "Babes in the Woods" design, period about 1850 (61594).

STATE, DEPARTMENT OF: (See under Cavaliere Salvatore Arbib, B. Harvey Carroll, jr., and Frederic W. Goding.)

- STEARNS & Co., FREDERICK, Detroit, Mich.: 36 specimens of vegetable drug constituents (62370).
- STEELE, E. S., U. S. National Museum: 1,176 specimens of plants collected in Virginia and the vicinity of Washington, D. C., in 1917 (62358).
- STEINER, E. A., Breckenridge, Colo.: Envelope addressed to Gen. Wm. T. Sherman in 1864, English deed of sale, dated September 15, 1699, 9 historical maps, and 19 miniature woodcuts of the seventeenth century (62102).
- STEINER, JACOB, Brooklyn, N. Y.: A knife pistol (62355).
- STEPHENS, J. E., Rumford, Me.: A political badge issued during the presidential campaign of 1840 (62264).
- STEPHENS, MRS. KATE, San Diego, Cal.: 5 specimens, 4 species, of mollusks from dredge at San Diego, Cal. (61624).
- STEBEN GLASS WORKS, THE, Corning, N. Y.: 22 specimens illustrative of colored art glassware technique (62575).
- STEVENS, Prof. O. A. (See under North Dakota Agricultural College.)
- STEWART, J. R. (See under M. O. Whiteley.)
- STORMONT, D. (See under Capt. McKenney, and Department of Commerce.)
- STORMS, Miss MURIEL H., Berkeley, Cal.: 91 specimens of Upper Paleozoic fossils from New Mexico, collected by W. H. Storms (62193).
- STOSE, GEORGE W., U. S. Geological Survey, Washington, D. C.: A dressed 6-inch cube of Kentucky bluestone (61864).
- STRAUS & Co., A. H., New York City: 9 samples of discharge-printed silks, "Luxor Taffeta," showing period designs (61633).
- STOCKER, ALBERT, Department of Commerce, Washington, D. C.: Specimen of catbird, *Dumetella carolinensis*, from Rosslyn, Va. (62485).
- STRONG, A. M., Los Angeles, Cal.: 5 mollusks, *Sonorella argus*, from Joe Peterson Canyon, 5 miles north of
- STRONG, A. M.—Continued.
- Searles Lake, San Bernardino County, Cal., and 2 mollusks, *Odos-tomia (Amaura) subturrita*, from Point Firmin, San Pedro, Cal. (62015).
- STRONG, Miss KATE W., Setauket, Long Island, N. Y.: 3 miniature groups of birds, made of feathers and beetle wings, brought from Mexico 50 years ago (62252).
- SUMNER, Mrs. ALLEN M., Washington, D. C.: A sculpture in marble representing the clasped hands of Dr. and Mrs. Allen M. Sumner, by John A. Jackson, sculptor, Florence, Italy, 1869 (62310, loan).
- SUMNER, Mrs. ALLEN M., jr. (through Mrs. John S. Morris and Mrs. R. G. Hoes): Collection of wearing apparel of the early and middle nineteenth century, worn by Mrs. Timothy Allen Sumner, of Boston, Mass. (61569, loan).
- SWINGLE, WALTER T., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.: Specimen of cactus, *Harrisia*, from Florida (61868).
- SYMINGTON, Miss EDITH, Winston-Salem, N. C.: 2 pieces of pottery brought from Las Casas Grandes, Mexico, some forty odd years ago by William N. Symington, C. E., M. E., brother of the donor (61340).
- TABORGA, RAFAEL, New York City (through Interior Department, U. S. Geological Survey, Washington, D. C.): 30 specimens of wolframite, with tungstite from the San Antonio Mine, Pongo, Oruro, Bolivia (62155).
- TAKESHITA, Vice Admiral I., care Department of State, Washington, D. C.: A Japanese cigarette case (61813).
- TALBOTT, Mrs. LAURA OSBURN, Washington, D. C.: Silk-lined cardcase made of Hawaiian kapa (61575).
- TALMAGE, W. C., Cleveland, Ohio: 15 beaver photographs and 1 bunch of beaver cuttings (61318).

- TAUNAY, A. D'E. (See under São Paulo, Brazil, Museu Paulista.)
- TAYLOR, EDWARD D., Birdwood, Va. (through Dr. Robert Bennett Bean): 2 Indian skulls from Captiva Island, Fla. (61367).
- TAYLOR, J. D., Bristol, Tenn.: 4 arrow points of blackish flint with beveled points found by the donor in Sullivan County, about 8 miles southeast of Bristol, Tenn. (61468).
- TAYS, E. A. H., San Blas, Sinaloa, Mexico: 2 acrosomid spiders from Mexico (61514).
- TEBBETTS, MRS. L. M., Kansas City, Mo.: Carved wood screen set with jade, ivory, etc., ornaments, from Shanghai, China (62406, loan).
- TEST, Capt. FREDERICK C., Fort Des Moines, Iowa: 3 snakes from Iowa (61820).
- THELLUNG, Dr. A., Zurich, Switzerland: 3 specimens of plants, *Amaranthus* (61534, 61772). Exchange.
- THOMAS, Dr. J. Oliver, Bluefields, Nicaragua, Central America: 28 specimens of mollusks and 2 pearls from Nicaragua (61428); 32 specimens of mollusks, *Tellina radiata* (61790).
- THOMPSON, Dr. EDGAR, Medical Inspector, U. S. Navy, care Navy Department, Washington, D. C.: An oil painting—"Don Giovanni Riglas," attributed to Cimabue; portrait of George Washington, woven in silk at Lyon, France, about 1832 (61454, loan).
- THOMPSON, Miss LILLIAN DYER, Cambridge, Mass.: 77 specimens of mollusks, Achatinellidae, from the vicinity of Honolulu, Hawaii (61586).
- THOMPSON, ROBERT J., Atlantic City, N. J.: A silk badge of the Young Men's National Whig Convention, Baltimore, May 2, 1844, decorated with a portrait of Henry Clay (62405).
- THOMPSON, MRS. ST. CLAIR, Spruce Pine, N. C.: 9 specimens of minerals from North Carolina (61874).
- THOMPSON, WEBSTER L., Alexandria, Va.: United States coins issued in 1917, as follows: Half dollar, quarter dollar, dime, nickel, and cent (2 specimens each), and a leather purse (62501).
- THORNTON, CHARLES W., Nome, Alaska: 127 specimens of plants, and 1 specimen of bryozoan from Alaska (61827). (See also under Pioneers of Alaska.)
- THORPE, Lieut. Col. G. C., U. S. Marine Corps, Santo Domingo, Dominican Republic: Double-barrel pistol (62331, loan); collection of firearms, consisting of 27 weapons, and a sword with leather scabbard (62332).
- TOLMAN, RUEL P., U. S. National Museum: A photo-mechanical rotary intaglio print (62397); facsimile of a horn book on bone, made by the donor from the original in possession of Miss Edna DeNeale of Washington, D. C. (62398).
- TOMS, CHARLES FRENCH, Asheville, N. C.: 2 samples of magnesium silicate from near Democrat, Buncombe County, N. C. (61322).
- TONDUZ, A., San José, Costa Rica: 12 specimens of plants from Costa Rica (61520). (See also under San José, Museo Nacional.)
- TORONTO, CANADA, THE ROYAL MUSEUM OF ARCHEOLOGY (through C. T. Currelly, director): 195 antiquities from Egypt, Babylonia, Greece, Rome, France, and England, including stone implements, pottery, bronze tools, cuneiform clay tablets, textiles, etc. (62402, exchange).
- TOWER, W. V., Agricultural Experiment Station, Mayaguez, Porto Rico: Specimen of tree frog from San Domingo (63132).
- TOWNSEND, Dr. C. H. T., Washington, D. C.: 12 land mollusks from Chiricahua Mountains, Arizona (61678); 7 specimens, 2 species, of land shells from Brownsville, Tex. (62009); bat, *Myotis*, alcoholic, from Arizona (62156).
- TRANSATLANTIC CHEMICAL CORPORATION, New York City (through The Barrett Co.): 4 specimens of coal

TRANSATLANTIC CHEMICAL CORPORATION—Continued.

products—orthonitrotoluol, paratoluidin, tolidin, paranitrotoluol (61697).

TREASURY DEPARTMENT: Seal of the Treasury Department of the United States, made in 1849 (61593); 9 posters (61850).

Mint of the United States (through R. T. Baker, Director of the Mint): 2 bronze medals issued by the U. S. Mint, commemorating, respectively, the inauguration of President William H. Taft, 1909, and the inaugurations of President Woodrow Wilson, 1913 and 1917 (62060); bronze replicas of the United States military and naval service medals, commemorative medals, and medals of award (141 specimens) (62592).

TRELEASE, DR. WILLIAM. (See under Illinois, University of.)

TRENCHARD, EDWARD, Babylon, Long Island, N. Y.: An oil painting by Edward Trenchard entitled "Sea, Sand, and Solitude" (61873); an oil painting entitled "Blood Is Thicker than Water: Engagement of the Peiho River, June 24, 1859"; a copy of the Dramatic Works of William Shakespeare, published in 1832; a copy of the "Naval Register for 1815"; and a chart of the mouth of the Kennebec River, Me., published in 1857; owned by Rear Admiral Stephen D. Trenchard, U. S. Navy (62147). Loan.

TRUDELL, HARRY W., Philadelphia, Pa.: 2 specimens of plants from North Carolina (61374).

TYLER, MRS. WILLIAM C., Washington, D. C.: Marble portrait medallion of Abraham Lincoln designed by Amelia Tyler (62502).

UDDEN, DR. J. A. (See under C. E. Lutz.)

ULKE, TITUS, U. S. Patent Office, Washington, D. C.: 111 specimens of plants from Maryland, Montana, and Virginia (61654, 61780, 61862, 61810).

ULKE, ESTATE OF HENRY (through Titus Ulke, Washington, D. C.): 2 oil portraits by Henry Ulke—Ludwig van

ULKE, ESTATE OF HENRY—Continued. Beethoven, 1875, and Ulysses S. Grant, 1876 (62150, loan).

UNIVERSITETETS BOTANISKE MUSEUM. (See under Copenhagen, Denmark.)

UNZICKER, DR. ROBERT, Chicago, Ill.: Specimen of batrachian from Platinina, Krain, Austria, and a photograph of Lepidoptera (62006).

U. S. MARINE CORPS (through Maj. Gen. Commandant George Barnett, U. S. M. C., Washington, D. C.): Flag and 2 small fragments of the gas bag of the Zeppelin L-49, captured at Bourbonne les Bains, France, October 17, 1917 (62021).

UTAH COPPER CO., THE, Salt Lake City, Utah: Series of 40 samples illustrative of steps in the treatment of the ore taken from the Bingham Canyon property, 62572).

UTAH, UNIVERSITY OF, Salt Lake City, Utah: Cliff-dwelling material from southern Utah and northern Arizona (55 specimens) (62431, exchange). (See also under Smithsonian Institution.)

VAN ESELTINE, G. P., U. S. Department of Agriculture, Washington, D. C.: 2 specimens of plants from Maryland (61625).

VAN HYNING, T. (See under Florida State Museum.)

VAUGHAN, DR. T. WAYLAND. (See under Georgia, Geological Survey of, Hon. Thomas H. Johnson, Dr. D. F. MacDonald, C. A. Mosier, and Dr. J. B. Woodworth.)

VERONICA MEDICINAL SPRINGS WATER CO., Santa Barbara, Cal.: A bottle of Veronica spring water (61352).

VEYRA, HON. JAIME C. DE, Washington, D. C.: 4 Philippine land shells, including the type of a new species, and a Philippine land shell, *Leptopoma nitidum*, new subspecies (61975, 62026); 28 specimens, 16 species, of Philippine mollusks (62114, 62380); skull of a flying lemur from Mindanao, P. I. (62301, exchange). (See also under Gilbert S. Perez.)

VON HOHEN, PAUL, Blackstone, Nottoway County, Va.: Arrow points and blades, mostly quartzite, from Notto-

VON HOHEN, PAUL—Continued.

way County, Va. (27 specimens) (61615).

WAGNER, ROY S., Hanford, Cal.: 170 specimens of beetles from California (61871).

WALCOTT, DR. CHARLES D., Secretary, Smithsonian Institution: Bronze medal commemorating the opening of the Catskill aqueduct, New York, 1917 (62010); 4 skulls, with skins, and 1 odd skull of moose, *Alces*; 2 skulls with 1 skin and 1 scalp of deer, *Odocoileus*; 1 skull with skin of mountain goat, *Oreamnos* (62148, collected for the Museum); a bronze medal commemorating the Louisiana Purchase Exposition, St. Louis, 1904 (62203); bronze medal commemorating the Trans-Mississippi and International Exposition, Omaha, Nebr. 1898 (62404).

WALCOTT, MRS. CHARLES D., Washington, D. C.: A Cree Indian beaded buckskin shirt (62522).

WALDO, E. M. & F., New York City (through The Barrett Co.): Specimens of coal product—phthalic acid anhydride (61694).

WALKER MUSEUM, UNIVERSITY OF CHICAGO, Chicago, Ill.: 5 bones of the Permian reptile, *Dimetrodon* (62124, exchange).

WALTON, A. C. (See under North-Western College, Naperville, Ill.)

WANBLE HOKSILA, EAGLE BOY, Standing Rock Indian Reservation, S. Dak. (through Robt. P. Higheagle and Miss Frances Densmore): A beaded pipe pouch made by Sitting Bull's sister (Sioux Indian) (62512).

WAR DEPARTMENT:

Army Medical Museum: Painting of the proposed new building for the Army Medical Museum and Library (62116, loan).

Army War College: Sword made during the latter part of the eighteenth century and carried during the War of 1812-1815 by Col. William Dudley, Kentucky Militia (61456).

Gas Defense Service (through Maj. A. L. Besse, Field Supply Section,

WAR DEPARTMENT—Continued.

Bureau of Mines, Washington, D. C.): Drawing illustrating a standard American type of respirator for gas-warfare defense and a colored chart showing details of a gas shell (62254).

Gettysburg National Park Commission, Gettysburg, Pa.: A small stone resembling a duck's head (received through Col. John P. Nicholson, chairman) (61437).

Office of Public Buildings and Grounds: 36 log specimens, representing 19 species of indigenous and exotic woods, cut from trees felled in the Smithsonian and Seaton Parks, Washington, D. C. (62585).

Walter Reed Army General Hospital, Washington, D. C.: Human brain (62119, transfer).

WARD, CHARLES WILLIS, Eureka, Cal.: A fur coat formerly belonging to one of the chief medicine men of Klamath River Indians (62095).

WARD'S NATURAL SCIENCE ESTABLISHMENT, Rochester, N. Y.: 20 ounces of native antimony from California (61353, exchange); 2 specimens of rock from near Mesaba, Minn. (61627); 11 specimens of minerals (61788, exchange); 11 specimens of fossil plants and 18 of fossil animals, including types (62052, exchange); 100 specimens of invertebrate fossils (62169, exchange); 3 specimens of fossil insects (62364, exchange). (See also under Milwaukee Public Museum of the City of.)

WASHINGTON, DR. HENRY S., Geophysical Laboratory, Carnegie Institution of Washington, D. C.: 4 type specimens of minerals (62229).

WASHINGTON, STATE COLLEGE OF, Pullman, Wash. (through Prof. F. L. Pickett): Type specimen of a plant, *Aquilegia wawawaiensis* (61659); specimen of fern, *Pellaea*, from Washington (61946, exchange).

WATERS, MRS. EMILY A., Newton Center, Mass.: Moth, *Parastichtis alla* (62167).

- WATSON, Miss S. E., Washington, D. C.: 3 rare old Chilkat Indian baskets (61613).
- WATSON, Rear Admiral JOHN C. (See under Farragut, Estate of Loyall.)
- WEBB, Capt. JOHN S., Disputanta, Va.: Specimens of pileated woodpecker, *Phloeotomus pileatus abieticola*, from Virginia (62037).
- WEBB, WALTER F., Rochester, N. Y.: 2 land shells, *Cochlostyla smaragdina* subspecies? collected in Boston, Davao, Mindanao, Philippine Islands, April, 1917 (61333); 14 specimens, 3 species, of Philippine land shells, including the type of *Obba webbi*, from Mindanao, Philippine Islands (61845); 10 specimens, 4 species, of land shells, including the types of 2 new subspecies, and a lot of mollusk egg capsules from the Philippines (61883); 50 specimens, 3 species, of Philippine land shells (61918); 8 specimens, 8 species, of Philippine land shells, including the types of 7 new species (62209); 4 specimens, 2 subspecies, of Philippine land shells embracing the cotypes of 2 new subspecies, *Obba listeri batanensis* and *Hemiplecta sagittifera batanensis* (62296).
- WEBSTER, EDMUND, Princess Anne, Md.: Leech, *Haemopsis marmoratis*, from Princess Anne (62284).
- WEBSTER, JEAN (through Mrs. Charles L. Webster, New York City): Note written by Gen. U. S. Grant, February 16, 1862, to Lieut. Gen. S. B. Buckner, C. S. Army, demanding the unconditional surrender of Fort Donelson (62012).
- WEED, ALFRED C., North Rose, N. Y.: 20 small concretions of clay impregnated with manganese oxide and iron (62418).
- WEILLS, ISAAC M., Vero, Fla. (through Dr. O. P. Hay): 2 young turtles from Florida (61747).
- WELCH, Dr. PAUL S., Kansas State Agricultural College, Manhattan, Kans.: 2 paratypes of worms, *Mesenchytraeus altus*, collected near Coronado, Colo. (61606).
- WELLESLEY COLLEGE, Wellesley, Mass. (through Prof. Lincoln W. Riddle): 150 specimens of plants (62317, exchange).
- WERTH, Mrs. MARY MAURY, Richmond, Va.: Uniform coat worn by Matthew Fontaine Maury when Commander, U. S. Navy, 1859-1861 (61467). (See also under Maury, Commander Matthew Fontaine, U. S. Navy, Descendants of.)
- WESTERN UNION TELEGRAPH CO., THE, New York City (through George M. Yorke, vice president): 3 perforating machines used in operating automatic telegraph lines (61649).
- WETMORE, A., U. S. Department of Agriculture, Washington, D. C.: Type of a new subspecies of least bittern from the Philippines (62311).
- WHARRAM, S. V., Austinburg, Ohio: 51 specimens, 16 species, of mollusks from Devel County, S. Dak., and Ashtabula County, Ohio (61361, 72442).
- WHARTON Miss NANCY MILLHOLLAND, Cumberland, Md.: Framed and mounted piece of needlework composed of 7 embroidered medallions representing United States coins, set in 2 star-shaped pieces of tatting (61821).
- WHEELER, Dr. DAVID E., Buffalo, N. Y.: 15 specimens of plants from Canada (61745).
- WHEELER, H. E., Conway, Ark.: 3 fresh-water mollusks, *Arkansai wheeleri*, from "Old River" channel, Ouachita River, near Arkadelphia, Ark. (61962).
- WHERRY, Dr. EDGAR T., U. S. Department of Agriculture, Washington, D. C.: 16 specimens of plants from Maryland and Virginia (61375, 61481, 61531, 61877, 62394, 62439, 62458); 3 specimens of copper ore from Herndon, Va. (61498); 200 pounds each of amblygonite and spodumene, and a number of rare minerals from near Keystone, S. D.; about 100 specimens of sphalerite and associated minerals and 200 pounds of brecciated chert from Pitcher, Okla.;

- WHERRY, DR. EDGAR T.—Continued.
also 300 pounds of apatite and hematite from Iron Mountain, Mo. (61529). (See also under O. H. Brown, S. G. Gordon, and J. G. Manchester.)
- WHITEHEAD, FRED L., Hassel, via Townsend, Mont.: A sample of rock containing an undetermined blue mineral (lazulite) (62460).
- WHITEHEAD, REZEN, Laurel, Md.: 1 red-shouldered hawk, *Buteo lineatus*, in immature plumage, from Maryland (61387).
- WHITEHEAD, W. L., Massachusetts Institute of Technology, Cambridge, Mass.: A series of nitrates and associations from Chile (61977).
- WHITELEY, M. O., Bangs, Tex., and J. R. STEWART, Brownwood, Tex.: A specimen of celestite (62048).
- WHITNEY, Prof. F. H., University of Texas, Austin, Tex. (through Dr. O. P. Hay): A fossil turtle, the type of *Terrapene whitneyi* (61359).
- WIENER, Capt. CLARENCE, New York City: Wooden statuette of Rameses II, mummified hand of a woman, head of Hercules from a Greek marble statuette, Greek terra-cotta lamp in form of Satyr's mask, silver coin, 7 bronze coins, a 9-pronged iron fork, and a marble head from a statue (14 specimens) (61843).
- WIGHT, Mrs. E. CUYLER. (See under Johnson, Heirs of William Cost.)
- WILBER, JEROME J., Washington, D. C.: A specimen of *Stigmara*, a fossil plant, from the Coal Measures of Pennsylvania (61726).
- WILCKES, MARTIN & WILCKES, New York City (through The Barrett Co.): 1 specimen of coal product—lamp black (61685).
- WILCOX, Brig. Gen. TIMOTHY E., U. S. Army (retired). (See under Col. W. D. Wolverton.)
- WILDE, FRANK L., Dobbs Ferry, N. Y.: 10 specimens of invertebrate fossils from Colombia, South America (61354).
- WILDER, Rev. GEORGE D., Peking, China: 4 bird skins from north China, and a
- WILDER, Rev. GEORGE D.—Continued.
bullfinch, type of *Pyrrhula erythaca wilderi*, from China (61825, 62109).
- WILLETT, GEORGE, Los Angeles, Cal.: 2 mollusks, *Sonorella rooseveltiana*, paratype from Roosevelt, Ariz., and *Ischnochiton willetti*, paratype from Forrester Island, southwestern Alaska (61712); 5 specimens, 4 species, of mollusks including the type of *Suavodrillia willetti* from Forrester Island (61836); specimen of mollusk, *Epitonium* species, from Forrester Island (62150).
- WILLIAMS, Col. CHARLES A., U. S. Army, Washington, D. C.: Specimen of seeds of a plant, *Oroxylum indicum*, from the Philippine Islands (61596).
- WILLIAMS, Mrs. WILLIAM A., Wilmington, N. C.: 8 specimens of plants from North Carolina (61524).
- WILLIAMSON, E. B., Bluffton, Ind.: 5 dragonflies from South America (62176).
- WILLIS, Mrs. G. B., Alexandria, Va.: A rock-crystal drinking cup of the Renaissance period, an ebony cabinet, and an ebony clock with Limoges enamel, and a small oil painting of an angel by Mary Elizabeth Williams (61651); "Virginia Virgo," a life-sized relief in Carrara marble, done by Sir Moses Ezekiel in Rome in 1897 (idealized portrait of a young girl); "Antinous," a bust in Carrara marble, being a copy by Luigi Guglielmi of the head of the Antinous of the Capitoline Museum, Rome, and "The Spirit of the Sphinx," water color by the American painter, Henry Bacon, done in Egypt in 1897 (61652). Loan.
- WILMER, Col. L. WORTHINGTON, Lotherian House, Ryde, Isle of Wight: About 400 specimens of Cretaceous fossils, and small collections of marine invertebrates and insects (62424).
- WILSON, C. G., Plant City, Fla.: A supposed fossil hen's egg (61336).
- WILSON, W. A., Salt Lake City, Utah (through Victor C. Heikes): Tetra-

- WILSON, W. A.—Continued.
hedrite crystals embedded in quartz from Park City, Utah (61396).
- WILSON, WOODROW, The White House, Washington, D. C.: American flag made at Islay House, Islay, Scotland, and used on the occasion of the funerals of United States soldiers lost with the transport *Tuscania*, February 5, 1918, and 3 photographs showing, respectively, portraits of the 5 makers of the flag, of Hugh Morrison, and of Colin Campbell, who took a prominent part in the *Tuscania* relief work (62464, deposit).
- WINCHESTER REPEATING ARMS Co., New Haven, Conn. (through Mr. Henry Brewer, vice president): British Enfield rifle, model 1914 (61588).
- WINECOFF, DR. THOS., Tacoma, Wash.: A collection of insects and mollusks from near Fort Yukon, Alaska (62385).
- WINN, A. F., Westmont, Quebec, Canada: About 150 living specimens of the beetle, *Physonota unipunctata* (62087, exchange).
- WITTENBERG-KING Co., Portland, Oreg.: 10 specimens of dehydrated food products (62158).
- WOLLE, A., Elkridge, Md.: European starling, *Sturnus vulgaris*, from Maryland (61939).
- WOLSIEFFER, P. M., Philadelphia, Pa.: A block of 4 counterfeit U. S. two-cent stamps, series of 1894, known as "Chicago printing" (61542).
- WOLVERTON, Col. W. D., Pittstown, N. J. (through Brig. Gen. T. E. Wilcox, U. S. Army, retired): Specimen of a fungus (61311).
- WOOD, NELSON R., U. S. National Museum: 16 lizards, snake, 2 insects; specimen of soft-shelled turtle; soft-shelled turtle, mud turtle, 2 soft-shelled turtle heads, 8 lizards, and skin and skull of a mink; 2 snapping turtles and a soft-shelled turtle; snake, *Elaps*; 2 young turtles; snapping turtle; and specimen of frog, *Rana aesopus*, all from Florida (62073, 62111, 62149, 62175, 62177, 62202, 62226, 62291).
- WOOD-GEISER, SAMUEL, Upper Iowa University, Fayette, Iowa: Robber fly, *Promachus vertebratus* (61708).
- WOODRING, W. P. (See under Dr. D. F. MacDonald.)
- WOODWARD, B. D., New York City (through Prof. F. W. Clarke): Samples of crude and refined manjak from Trinidad, British West Indies (61626).
- WOODWARD, BERNARD H. (See under Perth, Western Australia, Public Library Museum and Art Gallery of Western Australia.)
- WOODWORTH, Dr. J. B., Harvard Geological Museum, Cambridge, Mass. (through Dr. T. Wayland Vaughan): Plaster cast of rhinoceros tooth (62050).
- WOOLLEY, CLAUDE L., Baltimore, Md.: Sundial calculated for the latitude of Verdun, France, and one calculated for the latitude of Manila, Philippine Islands (61898, 62121).
- WORCH, HUGO, Washington, D. C.: Collection of musical instruments—additions to the Hugo Worch Collection (26 specimens) (62559).
- WORUMBO Co., New York City: 10 specimens of carded woolen fabrics (61445).
- WRAY, Lieut. JOSEPH A., U. S. M. C., Jeremie, Haiti: Petaloid stone ax head from the vicinity of Jeremie (61439).
- WURZLOW, E. C., Houma, La.: Pair of Orthoptera, *Neoconocephalus triops* (61670).
- YORKE, GEORGE M. (See under the Western Union Telegraph Co.)
- YUNCKER, T. G., Urbana, Ill.: 530 specimens of plants from Michigan (61823, exchange).
- ZEHNTNER, Dr. LEO, care Consulado Suiso, Bahai, Brazil: 12 specimens of cacti (62173).
- ZETEK, JAMES, Ancon, Canal Zone: 177 specimens of mollusks from Panama (61831).
- ZIMMERMAN, MARK E., White Cloud, Kans.: Fragments of pottery found on an old village site on the farm of the donor, on Cedar Creek, near White Cloud, 1917 (62246).

LIST OF PUBLICATIONS OF THE U. S. NATIONAL MUSEUM ISSUED DURING THE FISCAL YEAR 1917-1918, AND OF PAPERS PUBLISHED ELSEWHERE WHICH RELATE TO THE COLLECTIONS.

PUBLICATIONS OF THE MUSEUM.

REPORT.

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| Smithsonian Institution United States National Museum — Report on the progress and condition of the United States National Museum for the year end- | ing June 30, 1916 (Seal) Washington Government Printing Office 1917
8vo., pp. 1-219. |
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PROCEEDINGS.

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| Smithsonian Institution United States National Museum — Proceedings of the United States National Museum — Volume 51 | — (Seal) Washington Government Printing Office 1917
8vo., pp. i-xii, 1-676, pls. 1-121, 25 figs. |
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BULLETINS.

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| Smithsonian Institution United States National Museum Bulletin 95 — The fishes of the west coast of Peru and the Titicaca Basin By Barton Warren Evermann Director, Museum of the California Academy of Sciences and Lewis Radcliffe Assistant, United States Bureau of Fisheries (Seal) Washington Government Printing Office 1917
8vo., pp. i-xi, 1-166, pls. 1-14. | States National Museum (Seal) Washington Government Printing Office 1918.
8vo., pp. i-xxii, 1-461, pls. 1-161, figs. 1-172. |
| Smithsonian Institution United States National Museum Bulletin 97 — The Grapsoid crabs of America By Mary J. Rathbun Associate in Zoology, United | Smithsonian Institution United States National Museum Bulletin 100 Volume 1, Part 1 — Contributions to the Biology of the Philippine Archipelago and Adjacent regions — The Philippine land shells of the genus Amphidromus — By Paul Bartsch Curator, Division of Marine Invertebrates, United States National Museum (Seal) Washington Government Printing Office 1917
8vo., pp. 1-47, pls. 1-22. |

Smithsonian Institution | United States National Museum | Bulletin 100 | Volume 1, Part 2 | — | Contributions to the Biology of the Philippine Archipelago and | Adjacent regions | — | Ascidians from the Philippines | and adjacent waters | — | By Willard G. Van Name | Of the American Museum of Natural History | New York | (Seal) | Washington | Government Printing Office | 1918 | 8vo., pp. 49-174, pls. 23-33, figs. 1-115.

Smithsonian Institution | United States National Museum | Bulletin 100 | Volume 1, Part 3 | — | Contributions to the Biology of the Philippine Archipelago and | Adjacent regions | — | Report upon the Scyphomedusae | collected by the United States | Bureau of Fisheries Steamer | "Albatross" in the Phil- | ippine Islands and | Malay Archipelago | — | By Alfred Goldsborough Mayer | Director of the Department of Marine Biology | of the Carnegie Institution of Washington | (Seal) | Washington | Government Printing Office | 1917 | 8vo., pp. 1-III, 175-233, 24 figs.

Smithsonian Institution | United States National Museum | Bulletin 101 | — | The Columbian Institute for the | promotion of Arts | and Sciences | A Washington Society of 1816-1838, which established | a museum and botanic garden under | Government patronage | By | Richard Rathbun | Assistant Secretary of the Smithsonian Institution | In charge of the United States National Museum | (Seal) | Washington | Government Printing Office | 1917. | 8vo., pp. 1-III, 1-85.

Smithsonian Institution | United States National Museum | Bulletin 102, Part 1 | — | The Mineral Industries of | the United States | Coal products: An object lesson in | resource administration | by | Chester G. Gilbert | Curator of Mineral Technology, United States National Museum | (Seal) | Washington | Government Printing Office | 1917 |

8vo., pp. 1-16, 10 pls.

Smithsonian Institution | United States National Museum | Bulletin 102, Part 2 | — | The Mineral Industries of | the United States | Fertilizers: An interpretation of the | Situation in the United States | By | Joseph E. Pogue | of the Division of Mineral Technology | United States National Museum | (Seal) | Washington | Government Printing Office | 1917 |

8vo., pp. 1-22, 1 chart.

Smithsonian Institution | United States National Museum | Bulletin 102, Part 3 | — | The Mineral Industries of | the United States | Sulphur: An example of industrial independence | By | Joseph E. Pogue | Of the Division of Mineral Technology | United States National Museum | (Seal) | Washington | Government Printing Office | 1917 |

8vo., pp. 1-10, 3 pls.

Smithsonian Institution | United States National Museum | Bulletin 102, Part 4 | — | The Mineral Industries of | the United States | Coal: The resource and its | full utilization | By | Chester G. Gilbert | and | Joseph E. Pogue | Of the Division of Mineral Technology | United States National Museum | (Seal) | Washington | Government Printing Office | 1918 |

8vo., pp. 1-27.

CONTRIBUTIONS FROM THE U. S. NATIONAL HERBARIUM.

Smithsonian Institution | United
States National Museum | — |
Contributions | from the | United
States National Herbarium | Vol-
ume 18 | — | Systematic investiga-
tions | of | Tropical American

plants | — | Pittier, Hitchcock
and Chase | Safford, Standley |
(Seal) | Washington | Govern-
ment Printing Office | 1914-1917 |
8vo., pp. i-xvii, 1-494,
pls. 1-106, figs.
1-104.

PAPERS PUBLISHED IN SEPARATE FORM.**FROM VOLUME 18 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.**

- Part 6. New or noteworthy plants from Colombia and Central America—6.
By Henry Pittier. pp. i-x, 225-259, 7 figs., pl. 106.
Part 7. Grasses of the West Indies. By A. S. Hitchcock and Agnes Chase.
pp. i-xviii, 261-471.

FROM VOLUME 20 OF CONTRIBUTIONS FROM THE NATIONAL HERBARIUM.

- Part 2. The middle American species of *Lonchocarpus*. By Henry Pittier.
pp. i-x, 37-93, pls. 1-6, 43 figs.
Part 3. New or noteworthy plants from Colombia and Central America—7.
By Henry Pittier. pp. i-x, 95-132, pl. 7, 19 figs.

FROM VOLUME 53 OF THE PROCEEDINGS.

- No. 2207. A monograph of West American Melanellid mollusks.
By Paul Bartsch. pp. 295-356, pls. 34-49.
No. 2209. New and little-known species of South American fresh water mussels of the genus *Diplodon*. By William B. Marshall. pp. 381-388, pls. 50-55.
No. 2213. Notes and descriptions of miscellaneous chalcid-flies (Hymenoptera). By A. A. Girault. pp. 445-450.
No. 2214. Description of a new species of crab from the California Pliocene. By Mary J. Rathbun. pp. 451, 452, pl. 59.
No. 2215. Fossil remains of what appears to be a Passerine bird from the Florissant shales of Colorado. By R. W. Shufeldt. pp. 453-455, pls. 60, 61.
No. 2216. Eight new species of reared Ichneumon-flies with notes on some other species. By R. A. Cushman. pp. 457-469.
No. 2217. Notes on the shells of the genus *Epitonium* and its allies of the Pacific Coast of America. By William Healey Dall. pp. 471-488.
No. 2218. Fossil Echini of the Panama Canal Zone and Costa Rica. By Robert Tracy Jackson. pp. 489-501, pls. 62-68.
No. 2219. A revision of hymenopterous insects of the tribe Cremastini of America north of Mexico. By R. A. Cushman. pp. 503-551.
No. 2220. The color of amethyst, rose, and blue varieties of quartz. By Thomas L. Watson and R. E. Beard. pp. 553-563.
No. 2221. Generic names applied to birds during the years 1906 to 1915, inclusive, with additions and corrections to Waterhouse's "Index Generum Avium." By Charles W. Richmond. pp. 565-636.
No. 2222. North American collembolous insects of the subfamily Onychiurinae. By Justus W. Folsom. pp. 637-659, pls. 68-79.

FROM VOLUME 54 OF THE PROCEEDINGS.

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| <p>No. 2223. Chitons taken by the United States Fisheries Steamer <i>Albatross</i> in the northwest Pacific in 1906. By S. Stillman Berry. pp. 1-18, pls. 1-10.</p> <p>No. 2224. Notes on Hawaiian lizards. By John Otterbein Snyder. pp. 19-25.</p> <p>No. 2225. Nuculites from the Silurian formations of Washington County, Me. By Henry Shaler Williams. pp. 27-58, pls. 11, 12.</p> <p>No. 2226. Altitudinal distribution of Entomostraca in Colorado. By Gideon S. Dodds. pp. 59-87, pls. 13, 14.</p> <p>No. 2227. New flies of the genus <i>Sarcophaga</i> from Guam and the Philippines. By R. R. Parker. pp. 89-97.</p> <p>No. 2228. On two species of fishes from the Yalu River, China. By Isaac Ginsburg. pp. 99-101.</p> <p>No. 2229. Fossil plants from Bolivia and their bearing upon the age of uplift of the eastern Andes. By Edward W. Berry. pp. 103-164, pls. 15-18.</p> <p>No. 2230. A review of the subspecies of the Leach Petrel, <i>Oceanodroma leucorhoa</i> (Vieillot). By Harry C. Oberholser. pp. 165-172.</p> | <p>No. 2231. Description of <i>Hymenocephalus tenuis</i>, a new macruroid fish from the Hawaiian Islands. By Charles H. Gilbert and Carl Hubbs. pp. 173-175.</p> <p>No. 2232. Birds collected by Dr. W. L. Abbott on various islands in the Java Sea. By Harry C. Oberholser. pp. 177-200.</p> <p>No. 2233. An account of some fishes from Owens River, California. By John Otterbein Snyder. pp. 201-205.</p> <p>No. 2234. Notes on <i>Chrysodomus</i> and other mollusks from the North Pacific Ocean. By William Healey Dall. pp. 207-234.</p> <p>No. 2235. The Hopi Indian collection in the United States National Museum. By Walter Hough. pp. 235-296, pls. 19-53.</p> <p>No. 2236. The fishes of Mohave River, California. By John Otterbein Snyder. pp. 297-299.</p> <p>No. 2238. Notes on the nomenclature of the mollusks of the family Turritidae. By William Healey Dall. pp. 313-333.</p> <p>No. 2239. Description of new <i>Lepidoptera</i> from Mexico. By Harrison G. Dyar. pp. 335-372.</p> |
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CLASSIFIED LIST OF PAPERS BASED WHOLLY OR IN PART ON THE NATIONAL COLLECTIONS.¹

MUSEUM ADMINISTRATION.

RATHBUN, RICHARD. Report on the progress and condition of the United States National Museum for the year

RATHBUN, RICHARD—Continued.
ending June 30, 1916.

8vo., pp. 1-219, July 11, 1917.

¹ A few papers published prior to this fiscal year are included, having been inadvertently omitted from previous reports.

FINE ARTS.

Catalogue of an exhibition of lithographs of war work in Great Britain and the United States, by Joseph Pennell.

City of Washington,
Nov., 1917, 12mo.,
pp. 1-29, and paper
cover.

This interesting collection,
which was on view in the Na-

tional Gallery of Art from Nov. 1 to 24, 1917, comprised a large portion of the artist's sketches made under Government auspices in the various factories, shipyards, and other establishments in Great Britain and the United States engaged in war work. The catalogue includes an introduction and explanatory notes by the artist.

ANTHROPOLOGY.

CASANOWICZ, I. M. Two Jewish amulets in the United States National Museum.

*Journ. Amer. Oriental
Soc.*, 37, 1917, pp.
43-56, pls. 1, 2.

Contains a description of the
original texts, a translation and
commentary.

DOUGLASS, WILLIAM BOONE. Notes on the shrines of the Tewa and other Pueblo Indians of New Mexico.

*Proc. 19th Int. Cong.
Americanists*
(1915). Washing-
ton, 1917, pp. 344-
378, pls. 1-13, figs.
1-28.

Describes the location, form,
and contents of Tewa and other
pueblo shrines on the Jemez
plateau, New Mexico. These
shrines were discovered in the
course of surveys for the Gen-
eral Land Office by the author,
and from the collections made
from several of these shrines he
presented a large series of sac-
rificial objects to the National
Museum, most of them from a
"world center" shrine on one
of the loftiest peaks in the
Jemez Mountains.

FEWKES, J. WALTER. A prehistoric stone mortar from southern Arizona.

*Journ. Washington
Acad. Sci.*, 7, No.
14, Aug. 19, 1917,
pp. 459-463, figs.
1-3.

Description with figures of
stone objects found not far
from Casa Grande, Arizona.
One of these is a circular paint
mortar decorated on the out-
side with a rattlesnake, partially
coiled and in high relief. A fig-
ure of a rectangular paint pa-

LETTE, J. WALTER—Continued.

lette from the same locality is
also introduced in conjunction
with a similar Egyptian paint
palette.

Far View House—A pure type
of pueblo ruin.

Art and Arch., 6, No.
3, Sept., 1917, pp.
133-141, 6 illustra-
tions.

Discussion of the architectu-
ral features of Far View House,
Mesa Verde National Park, Colo-
rado, showing the structural
characters of a pure type of
pueblo ruin, to which are added
remarks on the "unit type" and
references to cliff-dwellings and
modern pueblos.

A prehistoric Mesa Verde
pueblo and its people.

Rep. Smithsonian Inst.,
1916, Pub. No. 2469,
pp. 461-488, pls.
1-15, figs. 1-7.

Account of the excavation and
repair of Far View House, one
of the sixteen mounds of a pre-
historic Indian village near the
reservoir called Mummy Lake,
Mesa Verde National Park, Colo-
rado. The work was in con-
tinuation of a cooperative plan
of the Department of the Inter-
ior and the Smithsonian Insti-
tution and revealed the archi-
tectural structure of the first
pueblo ever excavated on the
park. Except for its site, this
building is identical with a Mesa
Verde Cliff dwelling.

Points out the structural fea-
tures of the pure type of pueblo
architecture to which it belongs
and shows that it illustrates the
highest form of architectural
skill of the American Indian
north of Mexico.

FEWKES, J. WALTER. Prehistoric towers and castles of the Southwest.

Art and Arch., 7, No. 8, Sept. 1918, pp. 1-15, figs. 1-13 (Separate issued June, 1918).

Morphological study of prehistoric castles, great houses and towers found in southwestern Colorado. These buildings are divided into five groups each of which is defined. It is held that they are prehistoric and belong to the same era and type as those of the Mesa Verde National Park.

—The first Pueblo ruin in Colorado mentioned in Spanish documents.

Science (n. s.), 46, No. 1185, Sept. 14, 1917, pp. 255, 256.

Quotes from the manuscript diary of Fathers Dominguez and Escalante, dated 1776, mention of a ruin at the Great Bend of the Dolores. An English translation of the reference is given with the Spanish text and an identification of the ruin attempted. The diary is unique and one of the Peter Force collection in the Congressional Library. The ruin mentioned in it is 3 miles west of Dolores, Colo., on a low hill to the right of the road to Monticello, Utah.

—Towers and castles of the Hovenweep.

Red Book, Feb., 1918.

Published by the Denver and Rio Grande Railroad, Denver, Colo.

Itinerary of a trip from Dolores, Colo., to the towers and great houses or castles of the Hovenweep district and return to Cortez by way of McElmo Canyon, for the use of tourists. The ruins, reservoirs, and other antiquities to be seen are indicated and a few figured.

HOLMES, WILLIAM H. La Casa Del Adivino, Uxmal, Yucatan.

Art and Arch., 6, No. 1, July, 1917, pp. 16, 17, 1 pl.

The wonder excited by the first view of the ancient temples of Yucatan is not lessened with

HOLMES, WILLIAM H.—Continued.

the flight of time or with the familiarity that publication gives them. Indeed, the marvel is ever renewed and strengthened as the problems of their conception and building are brought time after time to our attention. The illustration is copied from the superb drawing by Catherwood, artist with the John L. Stevens Expedition.

—The place of archeology in human history.

Proc. 19th Int. Cong. Americanists (1915), Washington, 1917, pp. 5-11, diagrams 1-6.

Anthropology is regarded as presenting two distinct phases: The practical, which relates to the present and future, and the historical, which relates to the present and past. The sources of information to be drawn upon in treating the historical phase are the intentional or purposeful records, monumental and written, a small fraction only of the entire record; and the non-intentional or fortuitous records, the forgotten remains of man and his works, which are the subject matter of the science of archeology. This science claims for its own more especially that which is old or ancient in this great field, but in completing its task must traverse the entire record retrieving that which history has lost. The character of the archeological record in its various branches and the relation of these to the whole field of human history are illustrated by diagrams.

—The great dragon of Quirigua, Guatemala.

Rep. Smithsonian Inst., 1916, Pub. No. 2468, pp. 447-460, pls. 1-10. (Reprinted with the author's revision from *Art and Arch.*, 4, No. 6, Dec., 1916.)

Treats of the sculptural remains of a people quite lost to history and serves especially, through the illustrations, to convey a clear idea of the remarkable advance of the early occupants of Middle America

HOLMES, WILLIAM H.—Continued.

toward the status of culture known as civilization. The works are shown to be worthy of comparison with the famous masterpieces of the Old World.

— On the antiquity of man in America.

Science (n. s.), 47, No. 1223, June 7, 1918, pp. 561, 562.

Suggesting the desirability of extreme conservatism in estimating the value of evidence purporting to establish the theory of the Pleistocene appearance of man on the American continent. Unless great caution is exercised erroneous conclusions are liable to become fixtures on the pages of human history.

HOUGH, WALTER. The Sio Shalako at the first mesa, July 9, 1916.

Amer. Anthropol. (n. s.), 19, No. 3, July-Sept., 1917, p. 410-415.

Description, with commentary by Dr. J. Walter Fewkes, of a picturesque ceremony observed by the author at Sichomovi during a visit to the Hopi Indians in the interest of the United States National Museum. Dr. Fewkes compares the conduct of the ceremony at the present with his observations made in 1894, bringing out the changes which have taken place during the period.

— Ceremonial and other practices on the human body among the Indians.

Proc. 2nd Pan Amer. Sci. Cong. (1915-16), Washington, U. S. Government Printing Office, 1917, pp. 125-228. Also in *Proc. 19th Int. Cong. Americanists* (1915), Washington, 1917, pp. 283-285.

Discusses the probable origin and the distribution of types of mutilation and other practices on the human body. The methods employed and the results produced by such practices among the American Indians is supplemented with data gath-

HOUGH, WALTER—Continued.

ered from the Catlin and John White paintings, and from archeological specimens, such as labrets, ear plugs, etc., in the National Museum.

— The Hopi Indian collection in the United States National Museum.

Proc. U. S. Nat. Mus., 54, No. 2235, Apr. 6, 1918, pp. 285-296, pls. 19-53, figs. 1-48.

Aims to give an impression of the arts and industries of a tribe of Pueblo Indians at a period when they were little modified by outside influences. It embodies the researches of the author among the Hopi Indians with descriptions of the collection forming a handbook of the material from this tribe in the Museum.

HRDLIČKA ALEŠ. Proceedings of the 19th International Congress of Americanists held at Washington, December 27-31, 1915.

City of Washington, 1917, large 8vo., pp. 1-649, illustrated.

As secretary-general of the congress Dr. Hrdlička was responsible for the preparation for publication of the important volume of proceedings, which contains upward of 90 original communications on all branches of American anthropology. Moreover, the volume includes 50 pages of the secretary's report dealing with the organization and general activities of the congress.

— The genesis of the American Indian.

Proc. 19th Int. Cong. Americanists (1915), Washington, 1917, pp. 559-568, pls. 1-9, 1 fig. Also *Proc. 2nd Pan Amer. Sci. Cong.* (1915-16), 1917, 1, pp. 128-137.

Summary of the author's conclusions regarding the antiquity, origin, and racial identity of the American Indian. It is shown that the physical characteristics of the tribes are identical with those of the old popu-

HRDLÍČKA, ALEŠ—Continued.

lations of Eastern Asia, and thus that the American Indian could not have been derived except from this source; and that the peopling of America by the Indian could not be of very ancient date.

—The old white Americans.

Proc. 19th Int. Cong. Americanists (1915), Washington, 1917, pp. 582-601.

Preliminary report on the writer's studies on native Americans of an American ancestry of at least three generations. It gives in brief the physical characteristics of the first one hundred men and one hundred women examined, and shows to what extent in various features an approach has already taken place toward the formation of a distinct American type.

—The vanishing Indian.

Science (n. s.), 46, No. 1185, Sept. 14, 1917, pp. 266, 267.

Refers briefly to a trip in 1917 to the Shawnee and Kickapoo Indians of Oklahoma. It points out that while the tribes themselves are not decreasing, and may in fact be on the increase, the full bloods of the tribes are either already extinct (Kickapoo) or near the point of extinction (Shawnee).

JUDD, NEIL M. Notes on certain prehistoric habitations in western Utah.

Proc. 19th Int. Cong. Americanists (1915), Washington, 1917, pp. 119-124, 1 fig.

Describes three types of prehistoric habitations in western

JUDD, NEIL M.—Continued.

Utah, namely: Shelters of logs, grass, and clay like the Navaho hogan, at Willard and Beaver City, at the latter place associated with massive adobe dwellings; small, single room, detached houses at Paragonah, Utah; and stone wall houses with a kiva in a cave near Kanab, Utah. It is suggested on account of uniformity of artifacts that there is a relationship between the three types of dwellings, as well as a relationship to the pre-pueblo structures south and east of the Colorado River. An interesting case of superposition was observed in the Beaver City ruin, where four levels of occupancy were disclosed but not differentiated by artifacts.

MEANS, PHILIP AINSWORTH. Realism in the art of ancient Peru.

Art and Arch., 6 No. 5, Nov., 1917, pp. 235-246, figs. 1-18.

Both in plastic and painted embellishment the potters' art of the ancient coast dwellers of Peru embodied realistic natural forms and is thus of peculiar value to the anthropologist who can deduce therefrom interesting details regarding the life and customs of the people. This realism diminishes gradually as we pass to the south into the Nasca region, where color prevails over plastic methods as a means of embellishment. In the art of Tiahuanaco (just south of Lake Titicaca) realism is but slightly developed, and it is scarcely present at all in Inca art, save as an intrusive element derived from the coast peoples.

HISTORY.

RATHBUN, RICHARD. The Columbian Institute for the promotion of arts and sciences.

Bull. U. S. Nat. Mus., 101, Oct. 18, 1917, pp. i-iii, 1-85.

Historical account of a Washington society of 1816-1838, which established a museum and botanic garden under Government patronage. This is the first of a proposed series of papers on the history of the col-

RATHBUN, RICHARD—Continued.

lections in the National Museum and contains much valuable and interesting data concerning some of the most important objects in the national collections compiled from the manuscript and printed records of this early society, which was the forerunner of the National Institute. The second paper of the series, on the National Institute, is in course of preparation.

PHILATELY.

LEAVY, JOSEPH B. The United States Government collection of postage stamps.

The Philat. Gaz., 7, No. 7, July, 1917, pp. 232-235; 7, No. 8, Aug., 1917, pp. 263-267; 7, No. 9, Sept., 1917, pp. 300-302; 7, No. 10, Oct., 1917, pp. 335-337; 7, No. 11, Nov., 1917, p. 374; 7, No. 12, Dec., 1917, pp. 412-414; 8, No. 1, Jan., 1918, pp. 24, 25; 8, No. 5, May, 1918, pp. 165-167; 8, No. 6, June, 1918, pp. 203, 204.

Complete and detailed list of the stamps on exhibition in the Museum collection. The article is to be continued throughout the coming year, taking up the stamps of the various foreign countries in the order of installation.

New issue notes.

The Philat. Gaz., 7, No. 7, July, 1917, pp. 215-217; 7, No. 8, Aug., 1917, pp. 250-254; 7, No. 9, Sept., 1917, pp. 281-283; 7, No. 10, Oct., 1917, pp. 327-334; 7, No. 11, Nov., 1917, pp. 358-366; 7, No. 12, Dec., 1917, pp. 407-410; 8, No. 1, Jan., 1918, pp. 18-23; 8, No. 2, Feb., 1918, pp. 47-50; 8, No. 3, Mar., 1918, pp. 72-85; 8, No. 4, Apr., 1918, pp. 116-121; 8, No. 5, May, 1918, pp. 152-155; 8, No. 6, June, 1918, pp. 191-196.

Series of notes on new issues of foreign stamps received from the Universal Postal Union at Berne, Switzerland, through the Post Office Department.

Some further information concerning the 5-cent error.

LEAVY, JOSEPH B.—Continued.

The Philat. Gaz., 7, No. 8, Aug., 1917, pp. 244, 245.

Description of the circumstances under which 5-cent stamps were recently printed at the Bureau of Engraving and Printing in the color of, and on sheets with, 2-cent stamps. Based partly on Museum material.

War stamps.

The Philat. Gaz., 7, No. 8, Aug., 1917, pp. 255-263; 7, No. 9, Sept., 1917, pp. 295-297; 7, No. 10, Oct., 1917, pp. 321-325; 7, No. 11, Nov., 1917, pp. 368-370; 7, No. 12, Dec., 1917, p. 410.

A list of the war stamps issued to date by various countries and forwarded to the Post Office Department by the International Bureau of the Universal Postal Union, Berne, Switzerland, and transferred to the U. S. National Museum.

The dies of the 2-cent stamped envelope of 1916.

The Philat. Gaz., 7, No. 9, Sept., 1917, pp. 303, 304.

Description of the various dies of the stamped envelope mentioned.

The circular die-stamped envelope.

The Philat. Gaz., 8, No. 4, Apr., 1918, pp. 110-112.

Description of the various dies of the current 2-cent stamped envelope.

The 3-cent postage stamps surface printed.

The Philat. Gaz., 8, No. 6, June, 1918, pp. 188-191.

Description of the reason of issue and the method of manufacture of the stamp mentioned.

MAMMALS.

- ALLEN, GLOVER M. Two undescribed West Indian bats.
Proc. Biol. Soc. Washington, 20, Oct. 23, 1917, pp. 165-170.
 Material from National Museum used for comparison.
- ALLEN, J. A., HERBERT LANG, and JAMES P. CHAPIN. The American Museum Congo Expedition collection of bats.
Bull. Amer. Mus. Nat. Hist., 37, Art. 18, Sept. 29, 1917, pp. 405-563.
 Material from National Museum used for comparison.
- ANTHONY, H. E. Two new fossil bats from Porto Rico.
Bull. Amer. Mus. Nat. Hist., 37, Art. 19, Sept. 7, 1917, pp. 565-568.
 Material from National Museum used for comparison.
- BAILEY, VERNON. A new subspecies of chipmunk from the Yellowstone National Park.
Proc. Biol. Soc. Washington, 31, May 16, 1918, pp. 31, 32.
- CHAPIN, JAMES P. (See under J. A. Allen.)
- GRINNELL, HILDA WOOD. A synopsis of the bats of California.
Univ. California Pub. Zool., 17, No. 12, Jan. 31, 1918, pp. 223-404, pls. 14-24, figs. A-X.
 Elaborate account of the bats of California with detailed descriptions, maps of distribution, and lists of specimens examined. All the California bats in the National Museum are included in the lists.
- Notes on some bats from Alaska and British Columbia.
Univ. California Pub. Zool., 17, No. 15, Apr. 25, 1918, pp. 431-438.
 Material from National Museum used for comparison.
- HAY, OLIVER P. Vertebrata mostly from Stratum No. 3 at Vero, Fla., together with descriptions of new species.
Florida State Geol. Surv., 9th Annual Report, 1917, pp. 43-68, pl. 3.
 Material in the Division of Mammals used for comparison.
- HELLMAN, MILO. Observations on the form of the dental arch of the orang.
The Internat. Journ. of Orthodontia, 4, No. 2, Feb., 1918, pp. 3-15, figs. 1-19.
 Primarily based on the material in the National Museum collected by Dr. W. L. Abbott.
- HOLLISTER, N. A new hare from British East Africa.
Proc. Biol. Soc. Washington, 31, May 16, 1918, pp. 35, 36.
- HOWELL, ARTHUR H. Revision of the American flying squirrels.
North Amer. Fauna, No. 44, June 13, 1918, pp. 1-64, pls. 1-7, figs. 1-4.
 Recognizes 24 forms arranged as subspecies of 2 species.
- JACKSON, HARTLEY H. T. A new shrew from Nova Scotia.
Proc. Biol. Soc. Washington, 30, July 27, 1917, pp. 149, 150.
- LANG, HERBERT. (See under J. A. Allen.)
- MERRIAM, C. HART. Review of the grizzly and big brown bears of North America.
North American Fauna, No. 41, Feb. 9, 1918, pp. 1-136, pls. 1-16.
 Recognizes 85 forms of *Ursus* arranged in 14 groups. Describes the new genus *Vetularctos* from Mackenzie, Canada, which includes a single species.
- MILLER, GERRIT S., jr. A hooded seal in Florida.
Proc. Biol. Soc. Washington, 30, July 27, 1917, pp. 121-124.
 Account of the capture of a hooded seal at Canaveral, Fla.

MILLER, GERRIT S., jr.—Continued.

This is a northern animal, which had not previously been recorded from any part of the United States coast south of Chesapeake Bay.

— A new flying squirrel from eastern Asia.

Proc. Biol. Soc. Washington, 31, Feb. 21, 1918, pp. 3, 4.

Described as *Pteromys volans incanus*, a race of flying squirrel discovered at Verkhne Kolymsk, eastern Siberia, by Copley Amory, jr.

— A new river-dolphin from China.

Smithsonian Misc. Colls., 68, No. 9, Mar. 30, 1918, pp. 1-12, pls. 1-13.

Describes as *Lipotes vexillifer* a dolphin representing a new genus and species collected in

MILLER, GERRIT S., jr.—Continued.

Tung Ting Lake, China, by Charles M. Hoy. The animal is a member of a group that includes numerous fossil species, but is now nearly extinct. Its only known living relative occurs in the Amazon and Orinoco.

— Three new bats from Haiti and Santo Domingo.

Proc. Biol. Soc. Washington, 31, May 16, 1918, pp. 39, 40.

Local representatives of genera widely distributed in the West Indies.

TAYLOR, WALTER P. Revision of the rodent genus *Apodonta*.

Univ. California Pub. Zool., 17, No. 16, May 29, 1918, pp. 435-504, pls. 26-29, figs. A-P.

Primarily based on the material in U. S. National Museum.

BIRDS.**BANGS, OUTRAM, and THOMAS E.**

PENARD. Notes on a collection of Surinam birds.

Bull. Mus. Comp. Zool., 62, No. 2, Apr., 1918, pp. 25-93.

Observations on over 300 species and subspecies, of which 18, chiefly from other parts of South America, are described as new. Two genera are also introduced as new.

BARTSCH, PAUL. Additions to the Haitian avifauna.

Proc. Biol. Soc. Washington, 30, July 27, 1917, pp. 131, 132.

Describes a new subspecies of rail, revives a subspecies of golden warbler, and records 11 other species previously not reported from this island.

BERGTOLD, W. H. An early Colorado record of the white-tailed ptarmigan.

Auk, 34, No. 3, July, 1917, p. 334.

Notice of the first record of this species in Colorado, based on two specimens obtained by Capt. R. B. Marcy in 1858, and sent to the Smithsonian Institution.

BROWN, EDWARD J. The San Lucas sparrow (*Passerculus rostratus guttatus*) in California.

BROWN, EDWARD J.—Continued.

Auk, 34, No. 3, July, 1917, p. 340.

Records a series of specimens obtained in Orange County, Cal. This subspecies was previously known only from south of the Mexican boundary.

CHAPMAN, FRANK M. Notes on the plumage of North American birds. Forty-fifth paper.

Bird-Lore, 19, No. 6, Nov.-Dec., 1917, pp. 330, 331, 1 pl.; Forty-sixth paper, 20, No. 1, Jan.-Feb., 1918, pp. 19, 20, 1 pl.; Forty-seventh paper, 20, No. 2, Mar.-Apr., 1918, p. 153, 1 pl.; Forty-eighth paper, 20, No. 3, May-June, 1918, pp. 222, 223, 1 pl.

— The distribution of bird-life in Colombia; a contribution to a biological survey of South America.

Bull. Amer. Mus. Nat. Hist., 86, 1917, pp. i-x, 1-749, pls. 1-41, figs. 1-21.

Very important contribution to the ornithology of Colombia, based on recent explorations.

CHAPMAN, FRANK M.—Continued.

The number of species and subspecies treated is 1,285, of which 11 are described as new. An extended account of the physical features of the region, climate, life zones, and distribution of bird life are given, with a sketch of the development of ornithological research in Colombia.

COBY, CHARLES B. Catalogue of birds of the Americas. Part 2, No. 1.

Field Mus. Nat. Hist., Pub. 197, Zool. Ser., 13, Mar., 1918, pp. 1-315, pl. 1, figs. 1-3.

Catalogue of the owls, parrots, kingfishers, and related birds of America, forming the second part of a work of which the first has not yet appeared. Several forms are described as new to science.

DWIGHT, JONATHAN. The geographical distribution of color and of other variable characters in the genus Junco: a new aspect of specific and subspecific values.

Bull. Amer. Mus. Nat. Hist., 38, Art. 9, June 1, 1918, pp. 269-309, pls. 11-13, maps 1-5.

Study of variations in this genus from an unusual point of view, in which the subject is treated synthetically rather than analytically. A new subspecies is described from British Columbia.

GRINNELL, JOSEPH. The subspecies of the mountain chickadee.

Univ. California Pub. Zool., 17, No. 17, May 4, 1918, pp. 505-515, figs. 1-3.

Recognizes 4 subspecies, of which 2 are here described as new.

HERSEY, F. SEYMOUR. The status of the black-throated loon (*Gavia arctica*) as a North American bird.

Auk, 34, No. 3, July, 1917, pp. 283-290.

All North American notices of this species are found to refer to the Pacific loon (*Gavia pacifica*), with the exception of three from Alaska. The latter

HERSEY, F. SEYMOUR—Continued.

are identified with an east Siberian form, and not with the European species.

HOLLISTER, N. The black vulture in the District of Columbia and Maryland.

Proc. Biol. Soc. Washington, 30, July 27, 1917, p. 123.

Records an individual from Washington, D. C., and another from Perryman, Md.

— The yellow rail in the District of Columbia.

Proc. Biol. Soc. Washington, 31, June 29, 1918, p. 93.

Records a fourth specimen of *Coturnicops noveboracensis* from Washington, D. C.

HOWELL, ALFRED BRAZIER. Birds of the islands off the coast of southern California.

Pacific Coast Avifauna, No. 12, June 30, 1917, pp. 1-127, 1 map.

An account of the birds of the Santa Barbara and Los Coronados groups of islands, from which 195 forms are enumerated; 13 additional species are included in a hypothetical list.

LOOMIS, LEVERETT MILLS. Expedition of the California Academy of Sciences to the Galapagos Islands, 1905-1906. XII. A review of the albatrosses, petrels, and diving petrels.

Proc. California Acad. Sci., ser. 4, 2, pt. 2, No. 12, Apr. 22, 1918, pp. 1-187, pls. 1-17.

Account of the species obtained by the expedition, with a discussion of the remaining members of the group, including chapters on their distribution, migration, variation, etc., prefaced by a historic sketch.

MCGREGOR, R. C. New or noteworthy Philippine birds. II.

Philippine Journ. Sci., 13, No. 1, Sec. D, Jan., 1918, pp. 1-19, pls. 1-3, figs. 1-10.

Notes on 23 species of rare Philippine birds. *Neoleucotreron*

MCGREGOR, R. C.—Continued.

is introduced as a new subgenus, to include two little known fruit pigeons from Luzon.

OBERHOLSER, HARRY C. Notes on North American birds. II.

Auk, 34, No. 3, July, 1917, pp. 321-329; III, 34, No. 4, Oct., 1917, pp. 465-470; IV, 35, No. 1, Jan., 1918, pp. 62-65; V, 35, No. 2, Apr., 1918, pp. 185-187.

Notes on 20 species and subspecies, and 2 genera of North American birds.

—— A synopsis of the races of *Bombicilla garrula* (Linnaeus).

Auk, 34, No. 3, July, 1917, pp. 330-333.

Recognizes three subspecies, of which one occurs in North America.

—— *Piranga rubra rubra* in Colorado.

Proc. Biol. Soc. Washington, 30, July 27, 1917, p. 122.

Records this subspecies from Colorado.

—— Notes on the genus *Puffinus* Brisson.

Auk, 34, No. 4, Oct., 1917, pp. 471-475.

—— Diagnosis of a new pycnonotine family of Passeriformes.

Journ. Washington Acad. Sci., 7, No. 17, Oct. 19, 1917, pp. 537-541.

The fairy blue birds are incorporated into a new family, Irenidae, and a new genus and subspecies of the same group are described.

—— A review of the subspecies of the Leach petrel, *Oceanodroma leucorhoa* (Vieillot).

Proc. U. S. Nat. Mus., 54, No. 2230, Oct. 19, 1917, pp. 165-172.

Three subspecies are recognized.

—— Birds collected by Dr. W. L. Abbott on various islands in the Java Sea.

OBERHOLSER, HARRY C.—Continued.

Proc. U. S. Nat. Mus., 54, No. 2232, Nov. 2, 1917, pp. 177-200.

Account of the birds collected on Solombo Besar, Arrends, Mata Siri, and Kalambau Islands. A new genus and 14 new forms are described, chiefly from the first-named locality.

—— Description of a new subspecies of *Perisoreus obscurus*.

Proc. Biol. Soc. Washington, 30, Dec. 1, 1917, pp. 185-188.

Describes a new form from the Puget Sound region.

—— A new subspecies of *Geothlypis beldingi*.

Condor, 19, No. 6, Dec. 7, 1917, pp. 182-184.

A new subspecies from central Lower California is described.

—— A revision of the races of *Toxotoma redivivum* (Gambel).

Auk, 35, No. 1, Jan., 1918, pp. 52-61.

Three subspecies are recognized, diagnosed, and their geographic distribution added.

—— New light on the status of *Empidonax traillii* (Audubon).

Ohio Journ. Sci., 18, No. 3, Jan., 1918, pp. 85-98.

The name *Empidonax traillii* is found to refer to the form of eastern North America; the western form is given a new name.

—— The common ravens of North America.

Ohio Journ. Science, 18, No. 6, Apr., 1918, pp. 213-225.

Recognizes four subspecies, of which *Corvus corax europhilus*, from Alabama, is described as new.

—— Notes on the subspecies of *Numenius americanus* Bechstein.

Auk, 35, No. 2, Apr., 1918, pp. 188-195.

Two forms are recognized and here treated at length.

PENARD, THOMAS E. (See under Outram Bangs.)

PETERS, JAMES L. Birds from the northern coast of the Dominican Republic.

Bull. Mus. Comp. Zool.,
61, No. 11, Oct.,
1917, pp. 391-426.

Notes on 92 species collected and observed by the author.

RICHMOND, CHAS. W. The Cape May warbler at Washington, D. C., in winter.

Auk, 34, No. 3, July,
1917, p. 343.

Notice of the occurrence of this species at Washington in December.

— Descriptions of two new birds from Haiti.

Smithsonian Misc. Colls., 68, No. 7,
July 12, 1917, pp.
1-3.

Describes a new potoo and a new vireo.

— Generic names applied to birds during the years 1906 to 1915, inclusive, with additions and corrections to Waterhouse's "Index Generum Avium."

Proc. U. S. Nat. Mus.,
53, No. 2221, Aug.
16 (=25), 1917,
pp. 565-636.

Alphabetical list of about 600 names, with a statement of the place of publication, family position, and type species of each. Several pages are devoted to corrections of Waterhouse's work and to the two earlier supplements of the present writer. Two new generic names are introduced.

— In memoriam: Edgar Alexander Mearns.

Auk, 35, No. 1, Jan.,
1918, pp. 1-18, pl. 1.

RILEY, J. H. A new bullfinch from China.

Proc. Biol. Soc. Washington, 31, May 16,
1918, pp. 33, 34.

Describes a new subspecies from north China.

SHUFELDT, R. W. Mounted bird-exhibits of the United States National Museum at Washington.

Avicultural Mag., Ser.
3, 9, No. 6, Apr.,
1918, pp. 190-192,
1 pl.

SWALES, B. H. Northern phalarope (*Lobipes lobatus*) in Michigan.

Auk, 35, No. 1, Jan.,
1918, p. 75.

Note on the earliest record for this species in Michigan.

SWARTH, HARRY S. A revision of the marsh wrens of California.

Auk, 34, No. 3, July,
1917, pp. 308-318,
1 fig.

Three subspecies are accepted, of which one is described as new.

TODD, W. E. CLYDE. New genera, species, and subspecies of South American birds.

Proc. Biol. Soc. Washington, 30, July 27,
1917, pp. 127-130.

Describes a new genus of sparrows and another of oven-birds, and 10 species of various groups from Colombia and Venezuela.

WETMORE, ALEXANDER. Description of a new subspecies of the little yellow bittorn from the Philippine Islands.

Proc. Biol. Soc. Washington, 31, June 29,
1918, pp. 83, 84.

Describes *Iacobrychus sinensis astrologus* from the island of Luzon.

REPTILES AND BATRACHIANS.

BARBOUR, THOMAS. (See under Leonard Stejneger.)

CAMP, CHARLES LEWIS. (See under Joseph Grinnell.)

CARY, MERRITT. Life zone investigations in Wyoming.

CARY, MERRITT—Continued.

North Amer. Fauna,
No. 42, Oct. 3, 1917,
pp. 1-95, pls. 1-15,
figs. 1-17, map.

Lists of reptiles and amphibians on pages 16, 19, 24, 27,

CARY, MERRITT—Continued.

and 33. The specimens have been transferred to the National Museum by the Biological Survey, and the identifications were made in the Division of Reptiles.

CLARK, HOWARD WALTON. (See under Barton Warren Evermann.)

DICKERSON, MARY C. Systematic note on Lower California lizards.

Copeia, No. 50, Oct. 26, 1917, pp. 96-98

Refers largely to material in the National Museum.

DUNN, EMMETT R. Reptile and amphibian collections from the North Carolina mountains, with especial reference to salamanders.

Bull. Amer. Nat. Hist., 37, Art. 23, Oct. 13, 1917, pp. 593-634, pls. 57-61, figs. 1-7.

In the preparation of this paper the author had full access to and utilized material in the National Museum.

— The pine snake in Virginia.

Copeia, No. 51, Nov. 26, 1917, p. 101.

Records the occurrence of this snake in Blount County, Tenn., from material in the National Museum.

— A preliminary list of the reptiles and amphibians of Virginia.

Copeia, No. 53, Jan. 25, 1918, pp. 16, 17.

The author had full access to the specimens and records in the National Museum.

EVERMANN, BARTON WARREN, and HOWARD WALTON CLARK. The turtles and batrachians of the Lake Maxinkuckee region.

Proc. Indiana Acad. Sci., 1916, pp. 472-518.

Based almost exclusively on material in the National Museum.

GRINNELL, JOSEPH, and CHARLES LEWIS CAMP. A distributional list of the amphibians and reptiles of California.

Univ. California Pub. Zool., 17, No. 10, July 11, 1917, pp. 127-208, figs. 1-14.

GRINNELL, JOSEPH, and CHARLES LEWIS CAMP—Continued.

The specimens and records in the National Museum were examined and largely utilized in the preparation of this paper.

McCULLOCH, C. C. Ophidismus or snake poisoning.

New York Med. Journ., 107, Jan. 5, 1918, pp. 1-5, figs. 1-8.

Some of the illustrations used are figures previously published by the National Museum from specimens in the collection.

NOBLE, G. K. The systematic status of some batrachians from South America.

Bull. Amer. Mus. Nat. Hist., 37, Art. 30, Dec. 5, 1917, pp. 793-814, pls. 93-96, figs. 1-7.

The type material in the National Museum of the recently described *Cerathylia panamensis* was examined by the author and extensively commented on. By its aid he was able to correct and amplify the previous account of the curious way by which the young are fastened to the back of the mother.

SNYDER, JOHN OTTERBEIN. Notes on Hawaiian lizards.

Proc. U. S. Nat. Mus., 54, No. 2224, Oct. 17, 1917, pp. 19-25.

The extensive material upon which this paper is based was donated by the author to the National Museum.

STEJNEGER, LEONHARD. The salamander genus *Ranodon* in North America.

Proc. Biol. Soc. Washington, 30, July 27, 1917, pp. 123, 124.

Corrects published statements relating to the geographical distribution of *Ranodon sibiricus* and gives synonyms of the genus and its two species.

— *Desmognathus fuscus* again.

Science (n. s.) 47, No. 1224, June 14, 1918, pp. 587-589.

Shows that Spencer F. Baird committed no grammatical error in naming the dusky salamander *Desmognathus fuscus* as alleged by Prof. H. H. Wilder in a previous article in "Science."

STEJNEGER, LEONHARD. Description of a new snapping turtle and a new lizard from Florida.

Proc. Biol. Soc. Washington, 31, June 29, 1918, pp. 89-92.

The types of both species are in the National Museum.

——— Nomenclatorial notes on milk snakes.

Proc. Biol. Soc. Washington, 31, June 29, 1918, p. 99.

Explains the omission of the old well-known names *Lampropeltis dolikata*, *coccinea*, and *annulata* from Stejneger and Barbour's check list.

——— and THOMAS BARBOUR. A check list of North American amphibians and reptiles.

Harvard University Press, Cambridge, Dec. 12, 1917, pp. 1-125.

STEJNEGER, LEONHARD, and THOMAS BARBOUR—Continued.

Besides giving the systematic names of all the species and subspecies known to occur in North America, north of the Rio Grande, and in Lower California, the citation of original appearance of specific names is given for all, with the citation of the first appearance of the systematic name in its present combination. References are added to Cope's North American Batrachia and to his Crocodilians, Lizards and Snakes of North America, both publications of the National Museum. Vernacular names in well-established usage are given, also the type localities of species, as well as their geographical distribution.

FISHES.

EIGENMANN, CARL H. The American Characidae.

Memoirs Mus. Comp. Zool., 43, part 1, pp. 3-102, pls. 1-8, 12, 14-16, 95, 98, 100, and 101.

A revision of the American characinoid fishes, based on collections in the Museum of Comparative Zoology, Indiana University, Carnegie Museum, and the U. S. National Museum.

EVERMANN, BARTON WARREN, and LEWIS RADCLIFFE. The fishes of the west coast of Peru and the Titicaca Basin.

Bull. U. S. Nat. Mus., 95, Aug. 1, 1917, pp. 1-xi, 1-166, pls. 1-14.

Based primarily upon a collection of 120 species of fishes, 12 of which are described as new, made by Dr. R. E. Coker during an investigation of the fisheries and fishery resources of Peru. The total list is 187 species.

GILBERT, CHARLES H., and CARL HUBBS. Description of *Hymenocephalus ten-*

GILBERT, CHARLES H., and CARL HUBBS—Continued.

uis, a new macrurid fish from the Hawaiian Islands.

Proc. U. S. Nat. Mus., 54, No. 2231, Dec. 14, 1917, pp. 173-175.

Description based upon a single example, 75 mm. long, dredged off the southern coast of Oahu, *Albatross* station 3920, at a depth of 265 to 280 fathoms.

GINSBURG, ISAAC. On two species of fishes from the Yalu River, China.

Proc. U. S. Nat. Mus., 54, No. 2228, Oct. 18, 1917, pp. 99-101.

Notices *Acanthogobio longirostris* of Regan, placing it under the genus *Hemibarbus*, and contains a description of *Rhinogobius sowerbyi*, a new species of Goby, named for the collector, Mr. Arthur de C. Sowerby.

HUBBS, CARL. (See under Charles H. Gilbert.)

KENDALL, WILLIAM CONVERSE. The Rangeley Lakes, Me.; with special reference to the habits of the fishes, fish culture, and angling.

KENDALL, WILLIAM CONVERSE—Contd.

Bull. Bur. Fisheries,
35, No. 861, May
25, 1918, pp. 487-
594, pls. 40-46, figs.
1-23.

Based upon a biological and physical examination of the Rangeley Lakes system of Maine. The fishes collected during the investigations are deposited in the U. S. National Museum.

RADCLIFFE, LEWIS. (See under Barton Warren Evermann.)**SMITH, HUGH M.** New genera of deep-water Gurnards (Peristediidae) from the Philippine Islands.

Proc. Biol. Soc. Washington, 30, July 27,
1917, pp. 145, 146.

Descriptions of two new genera of gurnards—*Gargariscus*, type *G. semidentatus*, and *Hemiodus*, type *H. philippinus*—obtained by the U. S. Bureau of Fisheries steamer *Albatross* at station 5517, Mindanao Sea, Philippine Islands.

SNYDER, JOHN OTTERBEIN. An account of some fishes from Owens River, Cal.

Proc. U. S. Nat. Mus.,
54, No. 2233, Dec.
13, 1917, pp. 201-
205.

Based upon a collection of fishes made by Clarence H. Kennedy. Four native species are recorded—one catostomid, two cyprinoids, and a poeciliid.

— The fishes of Mohave River, Cal.

Proc. U. S. Nat. Mus.,
54, No. 2236, Mar.
15, 1918, pp. 297-
299, 1 fig.

The fishes of the Mohave River belong to a single species, a member of the genus *Siphateles*, which is described as a new form, *S. mohavensis*. A collection made near Victor, by Mr. Clarence H. Kennedy and some specimens secured by Mr. Dane Coolidge at Barstow have served as a basis for these notes.

UROCHORDA.**VAN NAME, WILLARD G.** Ascidians from the Philippines and adjacent waters.

Bull. U. S. Nat. Mus.,
No. 100, 1, Pt. 2,
May 4, 1918, pp.
1-111, 49-174, pls.
23-33, figs. 1-115.

VAN NAME, WILLARD G.—Continued.

This report on the ascidians of the *Albatross* Philippine expedition presents a systematic treatment of the group, embracing the discussion of 46 species, eight of which are new to science, two of the latter also representing new genera.

MOLLUSKS.**BARTSCH, PAUL.** A monograph of the west American Melanellid mollusks.

Proc. U. S. Nat. Mus.,
53, No. 2207, Aug.
13, 1917, pp. 295-
356, pls. 34-49.

Completes the discussion of the west American mollusks of the superfamily Pyramidelloideae, confining its discussion to the superfamily Melanellidae, the superfamily Pyramidellidae having been treated previously. It presents an exhaustive treatment of the systematic classification of the Melanellidae, including the description of 48 new species, 1 new subspecies, and 1 new genus; also the discussion of 86 previously de-

BARTSCH, PAUL—Continued.

scribed species. The types of all the new species are in the collections of the United States National Museum, except that of *Melanella ochseri*, which is in the collection of the California Academy of Sciences. It is based on the *Melanellid* collection of the United States National Museum, the Philadelphia Academy of Natural Sciences, Amherst College, Mass., the California Academy of Sciences, the Leland Stanford University, and numerous private collections.

— The Philippine land shells of the genus *Amphidromus*.

BARTSCH, PAUL—Continued.

Bull. U. S. Nat. Mus.,
No. 100, 1, Part
1, Sept. 22, 1917,
pp. 1-47, pls. 1-22.

Treats of the zoogeographic distribution and systematic classification of the Philippine *Amphidromi*, embracing the diagnosis of 9 new species and 13 new subspecies, the types of which, except *A. hidalgoi*, are in the collections of the National Museum, as well as much additional material. The collections of Philippine *Amphidromi* of the Philadelphia Academy of Natural Sciences, the Chicago Academy of Sciences, the Philippine Bureau of Science, and of Mr. Walter F. Webb, of Rochester, N. Y., were also included in the preparation of this monograph.

Report on the marine-boring mollusks in Guantanamo Bay, Cuba.

Bull. No. 28, Public Works of the Navy. Under the cognizance of the Bureau of Yards and Docks and the corps of Civil Engineers, U. S. Navy, Oct., 1917, pp. 48-50, 1 pl.

Reports a study of the ship worms of the region about the naval station, Guantanamo Bay, Cuba, and describes one new species, *Teredo knoat*; the type specimen is in the collections of the National Museum.

A correction.

Nautilus, 31, No. 2, Oct., 1917, pp. 71, 72.

Proposes *Cerithiopsis* (*Cerithiopsis*) *anattis* Bartsch new name for *Cerithiopsis* (*Cerithiopsis*) *helena* Bartsch, from Panama, reported in *Proc. U. S. Nat. Mus.*, 52, pp. 670, 671, pl. 46, fig. 2, 1917, and preoccupied by a fossil species of O. Boettger, 1901.

The land mollusks of the genus *Obba* from the islands of Bohol and Panglao, Philippine Islands.

Journ. Washington Acad. Sci., 8, No. 1, Jan. 4, 1918, pp. 16, 17.

Presents a brief critical diagnosis of four new subspecies belonging to the genus *Obba*;

BARTSCH, PAUL—Continued.

these will be more fully reported and figured in a monograph on the Philippine *Obbas*, which is in preparation.

Type specimens are in the collections of the U. S. National Museum.

A key to the Philippine subspecies of *Obba marginata*, with notes on their distribution.

Journ. Washington Acad. Sci., 8, No. 3, Feb. 4, 1918, pp. 60-63,

Give a key to the group of *Obba marginata*, together with a brief account of the zoogeographic facts presented by existing data. It forms one of a series of synopses of parts of a forthcoming report on the Philippine land shells. Types of the new subspecies reported are in the National Museum.

Pirates of the deep—stories of the squid and octopus.

Rep. Smithsonian Inst., 1916, Pub. No. 2464, Feb. 8, 1918, pp. 347-375, pls. 1-19.

Presents an historical sketch of the Cephalopoda, together with an unusual collection of facts and fables which have been gleaned from many sources and interwoven in an illustrated deep-sea account.

The land shells of the genus *Amphidromus* from the islands of the Palawan Passage.

Journ. Washington Acad. Sci., 8, No. 11, June 4, 1918, pp. 361-367.

An appendix to the published monograph upon the Philippine members of the genus *Amphidromus*, discussing the complex from the Palawan Passage. When the monograph was prepared there was not sufficient material available to enable the author to properly discuss the group here treated.

Two new species of fossil marine shells from California.

Proc. Biol. Soc. Washington, 31, June 29, 1918, pp. 79, 80.

BARTSCH, PAUL—Continued.

Describes two new species found in a small collection of fossils secured by Mr. Thomas Oldroyd at Knob Hill Cut, San Pedro, Cal. The types are in Mr. Oldroyd's collection.

— A new fossil Pyramidellid mollusk from the west coast of America.

Proc. Biol. Soc. Washington, 31, June 29, 1918, pp. 81, 82.

Describes a single new species, *Turbonilla (Pyrgolampros) amava*, the type of which is in the National Museum.

BERRY, S. STILLMAN. Chitons taken by the United States fisheries steamer "Albatross" in the northwest Pacific in 1906.

Proc. U. S. Nat. Mus., 54, No. 2223, Dec. 5, 1917, pp. 1-18, pls. 1-10, 1 fig.

Presents a critical review of the *Union* fauna of the northwestern Pacific, discussing 11 species, 4 of which are described as new. Types of the material upon which this report is based are in the National Museum.

DALL, WILLIAM HEALEY. A new species of *Astarte* from Alaska.

Nautilus, 31, No. 1, July, 1917, pp. 10-12.

Describes *Astarte willetti* from Forrester Island, Alaska, from the collections of the National Museum.

— Notes on boreal land and freshwater shells.

Nautilus, 31, No. 1, July, 1917, pp. 12, 13.

Catalogues shells sent by Dr. T. E. Winecoff from Fort Yukon, Alaska, to the National Museum, including *Planorbis crista* Linnaeus and *Pisidium vesiculare* Sterki, new to the region, also small collections from St. Mathew Island and Unalaska, Alaska.

— Notes on the shells of the genus *Epitonium* and its allies of the Pacific coast of America.

Proc. U. S. Nat. Mus., 53, No. 2217, Aug. 10, 1917, pp. 471-488.

DALL, WILLIAM HEALEY—Continued.

Review of the species of this group based on the National Museum collections, describing 45 new forms, and proposing a section *Pictoscala* for the shells of the type of *E. lineatum* Say.

— Preliminary descriptions of new species of Pulmonata of the Galapagos Islands.

Proc. California Acad. Sci., ser. 4, 2, pt. 1, No. 11, Dec. 31, 1917, pp. 375-382.

This paper describes 14 new species of Pulmonata from the Galapagos Islands. Cotypes of the species described are in the National Museum.

— Description of new species of shells chiefly from Magdalena Bay, Lower California.

Proc. Biol. Soc. Washington, 31, Feb. 27, 1918, pp. 5-8.

Describes 10 new shells from Lower California.

— Notes on *Chrysodomus* and other mollusks from the North Pacific Ocean.

Proc. U. S. Nat. Mus., 54, No. 2234, Apr. 5, 1918, pp. 207-234.

Reviews the nomenclatorial history of the subfamily and describes 17 new forms; proposes *Aulacofusus* and *Limatofusus* as new sections of *Phiofusus* and *Colus*, respectively.

— Notes on the nomenclature of the mollusks of the family Turritidae.

Proc. U. S. Nat. Mus., 54, No. 2238, Apr. 5, 1918, pp. 313-333.

Review of the nomenclatorial history of the group with a list of names of subdivisions of the family which have been proposed by authors. For a new group and species from Panama, the name *Zetekia denticulata* is proposed. For species having preoccupied names the following new names are proposed: *Pleurotoma sello*, *acera*, *aglala*, *agatho*, *alotippe*, *amymone*, *antlope*, *arethusa*, *roscoincta*, *berenice*, *clymene*, *enna*, and *glaucoe*.

HENDERSON, JOHN B. Collecting days about the naval station, Guantanamo Bay, Cuba.

Nautilus, 31, No. 2, Oct., 1917, pp. 41-44.

Gives a brief account of a three weeks' collecting trip for mollusks in the region about Guantanamo, Cuba.

MARSHALL, WILLIAM B. New and little-known species of South American fresh-water mussels of the genus *Diplodon*.

Proc. U. S. Nat. Mus., 53, No. 2209, Aug. 15, 1917, pp. 381-388, pls. 50-55.

MARSHALL, WILLIAM B.—Continued.

Presents a critical diagnosis and illustrations of six little-known species of South American *Diplodon* previously reported by Charles T. Simpson, and also describes and figures two new species of *Diplodon* from Uruguay.

——— *Lampsilis ventricosa cohongoronta* in the Potomac River.

Nautilus, 31, No. 2, Oct., 1917, pp. 40, 41.

Notes on the occurrence of *Lampsilis ventricosa cohongoronta* in the Potomac, citing previous records; also making the first report of the species in the Potomac so far south as Great Falls.

INSECTS.

BEUTENMUELLER, WM. Descriptions of new Cynipidae.

Can. Ent., 49, No. 10, Oct. 1, 1917, pp. 345-349.

Of the species described in this paper the types of one and paratypes of another are in the National Museum.

CAUDELL, A. N. *Homocoryphus malivolans* Scud. in Texas.

Bull. Brooklyn Ent. Soc., 13, No. 1, Jan., 1918, pp. 21-22.

——— On a collection of Orthoptera (exclusive of Locustidae) made in central Peru by N. Iconnecoff and C. Schunke.

Insecutor Inscitiae, Menstruus, 6, Nos. 1-3, Mar. 5, 1918, pp. 1-70, pls. 1, 2.

Of the species described in this paper the types of 21 species are in the National Museum.

COCKERELL, T. D. A. Some bees of the genus *Psaenythia* (Hym.).

Ent. News, 28, No. 7, July, 1917, pp. 302, 303.

Describes 1 new species and 1 new subspecies from Museum material.

——— Some neotropical megachilid bees.

COCKERELL, T. D. A.—Continued.

Can. Ent., 49, No. 7, July 2, 1917, pp. 252-254.

Describes 3 new species.

——— Descriptions and records of bees.—76.

Ann. Mag. Nat. Hist., ser. 8, 20, Sept., 1917, pp. 235-241.

Of the new species described the types of 7 are in the National Museum.

——— A second *Colletes* with spotted wings (Hym.).

Ent. News, 28, No. 8, Oct., 1917, p. 363.

——— Descriptions and records of bees.—78.

Ann. Mag. Nat. Hist., ser. 8, 20, Dec., 1917, pp. 436-441.

The types of 5 of the new species and 1 of the new varieties described are in the National Museum.

——— The bee-genus *Brachynomada*.

Can. Ent., 50, No. 1, Jan. 16, 1918, pp. 26-28.

Describes one new species.

——— Neotropical bees, principally collected by Prof. Brunner in Argentina.

Trans. Amer. Ent. Soc., 49, No. 773, Mar. 30, 1918, pp. 25-38.

COCKERELL, T. D. A.—Continued.

Describes 15 new species and 1 new subspecies and gives a key to the species discussed in the paper.

—— Some South American bees.

Can. Ent., 50, No. 4,
Apr. 13, 1918, pp. 137–140.

Describes four new species.

—— Some bees of the genus *Panurginus* (Hym.).

Ent. News, 29, No. 5,
May, 1918, pp. 169–171.

Describes three new species.

COLE, FRANK R. A new genus of *Cyrtidae* from South America (Dip.).

Ent. News, 29, No. 2,
Feb., 1918, pp. 61–64, figs. 1–5.

Describes one new species.

CUSHMAN, R. A. Eight new species of reared ichneumon-flies with notes on some other species.

Proc. U. S. Nat. Mus.,
53, No. 2216, Aug.
9, 1917, pp. 457–469.

Gives keys to the North American species of the genera *Bathythrix* and *Aenoplex*.

—— A revision of hymenopterous insects of the tribe *Cremastini* of America north of Mexico.

Proc. U. S. Nat. Mus.,
53, No. 2219, Aug.
22, 1917, pp. 503–551.

In this revision 1 new genus and 29 new species are described and keys given to the species of the genera *Pseuderipterus* and *Cremastus*.

DYAR, HARRISON G. The mosquitoes of the Pacific Northwest.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
pp. 97–102, pl. 2.

One new species is described.

—— Notes on *Aedes* at Lake Pend d'Oreille, Idaho.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
pp. 102–104.

DYAR, HARRISON G. Notes on the *Aedes* of Montana.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
pp. 104–121.

Two new species are described.

—— A new *Aedes* from the Rocky Mountain region.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
pp. 127, 128.

—— Descriptions of lepidopterous larvae from Mexico.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
pp. 128–132.

—— A new pyralid from California.

Insector Inscitiae Menstruus, 5, Nos.
7–9, Oct. 15, 1917,
p. 132.

—— *Brabantia rhizoleuca* redescribed.

Insector Inscitiae Menstruus, 5, Nos.
10–12, Jan. 29,
1918, p. 169.

—— A second note on the species of *Culex* of the Bahamas.

Insector Inscitiae Menstruus, 5, Nos.
10–12, Jan. 29,
1918, pp. 183–187.

Describes 1 new subgenus and 1 new species.

—— The larva of *Aedes idahoensis*.

Insector Inscitiae Menstruus, 5, Nos.
10–12, Jan. 29,
1918, pp. 187, 188.

—— Descriptions of new *Lepidoptera* from Mexico.

Proc. U. S. Nat. Mus.,
54, No. 2239, Apr.
5, 1918, pp. 335–372.

Describes 12 new genera, 117 new species, and gives a table to some of the species of *Antaploga*.

—— The male genitalia of *Aedes* as indicative of natural affinities.

Insector Inscitiae Menstruus, 6, Nos.
4–6, Apr. 10, 1918,
pp. 71–86.

Gives a key based on male genitalia and describes 2 new species.

DYAR, HARRISON G. A revision of the American species of *Culex* on the male genitalia.

Insecutor Inscittae Menstruus, 6, Nos. 4-6, Apr. 10, 1918, pp. 86-111, pls. 3, 4.

Describes 1 new subgenus and 3 new species.

— A note on the American species of *Mansonella*.

Insecutor Inscittae Menstruus; 6, Nos. 4-6, Apr. 10, 1918, pp. 112-115.

One new species is described.

— and FREDERICK KNAB. Notes on *Aedes curriel* (Coquillett).

Insecutor Inscittae Menstruus, 5, Nos. 7-9, Oct. 15, 1917, pp. 122-125.

— New American mosquitoes.

Insecutor Inscittae Menstruus, 5, Nos. 10-12, Jan. 29, 1918, pp. 165-169.

Four new species are described.

— The genus *Culex* in the United States.

Insecutor Inscittae Menstruus, 5, Nos. 10-12, Jan. 29, 1918, pp. 170-183.

Gives a key to the subgenus of *Culex* based on male genitalia a key to adults and describes 2 new species.

FOLSOM, JUSTUS W. North American collembolous insects of the subfamily Onychiurinae.

Proc. U. S. Nat. Mus., 53, No. 2222, Aug. 22, 1917, pp. 637-659, pls. 68-79.

Describes six new species and gives keys to the genera and species.

GAHAN, A. B. An interesting new hymenopterous parasite.

Can. Ent., 50, No. 5, May 10, 1918, pp. 151, 152.

GIBSON, EDMUND H. The family Iso-metopidae Fieb. as represented in North America. (Heteroptera.)

Bull. Brooklyn Ent. Soc., 12, No. 4, Oct., 1917, pp. 73-77.

GIBSON, EDMUND H.—Continued.

One new genus and two new species are described and a key to the species of *Isometopus* is given.

— The genus *Harmostes* Burm. (Coreidae; Heteroptera).

Ent. News, 28, No. 10, Dec., 1917, pp. 439-450.

Gives a key to the species of the genus and describes one new one.

— The genus *Hadronema* Uhl. (Miridae; Heteroptera).

Can. Ent., 50, No. 3, Mar. 15, 1918, pp. 81-84.

Gives a key to the North American species and describes two new species.

— The genus *Corythucha* Stal.

Trans. Amer. Ent. Soc., 44, No. 775, Apr. 4, 1918, pp. 69-104.

Of the new species described in this paper the types of 6 and paratypes of 1 other are in the National Museum.

— and ABBY HOLDBRIDGE. The genus *Narnia* Stal. and a key to the genera of Anisocellini A. & S. (Coreidae; Heteroptera).

Psyche, 25, No. 1, Feb., 1918, pp. 1-4.

Gives a key to the North American species of *Narnia*.

— and EMMA WELLS. A key to the species of the genus *Ceresa* A. & S. occurring north of Mexico and the description of a new species. (Membracidae; Hemiptera.)

Bull. Brooklyn Ent. Soc., 12, No. 5, Dec., 1917, pp. 110-113.

— The genus *Ophiderma* Fairm. (Membracidae; Homoptera).

Journ. N. Y. Ent. Soc., 25, No. 4, Dec., 1917, pp. 199-202.

Gives a key to the species and describes 2 new species.

GIRAULT, A. A. Notes and descriptions of miscellaneous chalcid-flies (Hymenoptera).

Proc. U. S. Nat. Mus., 53, No. 2213, Aug. 10, 1917, pp. 445-450.

GIRAULT, A. A.—Continued.

Describes 12 new species and gives notes on various other species.

——— New Australian chalcid-flies. (Continuation.)

Insecutor Inscitiae Menstruus, 5, Nos. 7-9, Oct. 15, 1917, pp. 133-155.

Of the new forms described the types of 21 species and 1 variety are in the National Museum.

——— The North American species of *Trigonoderus* Westwood, females (Hymen.).

Ent. News, 28, No. 9, Nov., 1917, pp. 396, 397.

Describes four new species and gives key to North American species.

——— Notes on hymenoptera parasitica.

Bull. Brooklyn Ent. Soc., 12, No. 5, Dec., 1917, p. 118.

Describes 1 new genus and 2 new species.

——— The North American species of *Cerchysius*, females (Hymn., Chalcid.).

Ent. News, 29, No. 2, Feb., 1918, pp. 65, 66.

Gives a key to species and describes one new one.

——— New and old West Indian and North American chalcid-flies (Hym.).

Ent. News, 29, No. 4, Apr., 1918, pp. 125-131.

Describes 1 new genus, 6 new species, and 1 new variety.

HOLDRIDGE, ABBY. (See under Edmund H. Gibson.)

ISELY, DWIGHT. A synopsis of the petiolate wasps of the family Eumenidae (Hymenoptera), found in America north of Mexico.

Ann. Ent. Soc. Amer., 10, No. 4, Dec., 1917, pp. 345-366.

Eight new species and one new subspecies are described.

KNAB, FREDERICK. A new ortalid from the Philippines.

KNAB, FREDERICK—Continued.

Insecutor Inscitiae Menstruus, 5, Nos. 7-9, Oct. 15, 1917, pp. 125-127.

——— (See also under Harrison G. Dyar.)

——— and R. H. VAN ZWALUWENBURG.

A second *Mycetophila* with dung-bearing larva (Diptera; Mycetophilidae).

Ent. News, 29, No. 4, Apr., 1918, pp. 138-142, pl. 8.

Describes one new species.

MCGREGOR, E. A. Eight new Mallophaga of the genus *Lipeurus* from North American birds.

Psyche, 24, No. 4, Aug., 1917, pp. 105-117, pls. 5-7.

——— Three new Mallophaga from North American birds.

Ent. News, 28, No. 10, Dec., 1917, pp. 433-437, pl. 28.

PARKER, R. R. New flies of the genus *Sarcophaga* from Guam and the Philippines.

Proc. U. S. Nat. Mus., 54, No. 2227, Oct. 17, 1917, pp. 89-97, figs. 1-5.

Describes four new species.

ROHWER, S. A. Notes on and descriptions of the nearctic woodwasps of the genus *Xiphydria* Latreille (Hym.).

Ent. News, 29, No. 3, Mar., 1918, pp. 105-111.

Gives a key to the species and describes one new species.

SMITH, H. E. Five new species of North American Tachinidae.

Psyche, 24, No. 5, Oct., 1917, pp. 137-141.

Type of one of the new species is in the National Museum.

TOWNSEND, C. H. T. Indian flies of the subfamily Rhiniinae.

Records Indian Mus., 13, Pt. 4, No. 12, Aug., 1917, pp. 185-202.

Paratypes of nine of the new species described are in the National Museum.

TOWNSEND, C. H. T. Genera of the dipterous tribe Sarcophagini.

Proc. Biol. Soc. Washington, 30, Dec. 1, 1917, pp. 189-198.

Describes 20 new genera and 6 new species.

— New genera of Amobiinae.

Insector Insectiae Menstruus, 5, Nos. 10-12, Jan. 29, 1918, pp. 157-165.

Eleven new genera and three new species are described.

TOWNSEND, C. H. T. A new muscoid genus from the Chiricahua Mountains, Ariz. (Dip.).

Ent. News, 29, No. 5, May, 1918, pp. 177, 178.

One new species is described.

VAN ZWALUWENBURG, R. H. (See under Frederick Knab.)

WELLS, EMMA. (See under Edmund H. Gibson.)

CRUSTACEA.

DODDS, GIDEON S. Altitudinal distribution of Entomostraca in Colorado.

Proc. U. S. Nat. Mus., 54, No. 2226, Oct. 27, 1917, pp. 59-87, pls. 13, 14, figs. 1-10.

Treats of the influence of the physiographic and climatic environmental conditions on the altitudinal distribution of Entomostraca in Colorado, presenting an exhaustive discussion of the fauna of the State, including 58 species now recorded by the author and 16 species previously recorded by other students.

RATHBUN, MARY J. The Grapsoid crabs of America.

Bull. U. S. Nat. Mus., No. 97, Jan. 25, 1918, pp. i-xxii, 1-461, pls. 1-161, figs. 1-172.

Part of a work projected many years ago as a handbook for the study of American crabs, the main purpose being to give a brief description with figures of each species. This report has been enlarged to include a detailed catalogue of the specimens in the National Museum and greatly augmented by an accumulation of material during its preparation resulting in the description of many new species. Consequently the work

RATHBUN, MARY J.—Continued.

has been expanded into four volumes. The present one deals with six families: Goneplacidae, Pinnotheridae, Cymopolidae, Grapsidae, Gocarcinidae, and Ocypodidae. Fifty-six genera, 235 species, and 3 subspecies are described and almost all figured. The collections in the National Museum form the basis of this bulletin, which has been enriched by the loan of the collection of Pinnotheridae of Stanford University, the same of the Museum of Comparative Zoology, and certain Pinnotherid type specimens of the British Museum collection.

— Brachyura of the Australasian Antarctic expedition 1911-1914. Under the leadership of Sir Douglas Mawson, D. Sc., B. E.

Scientific Reports, series C, Zoology and Botany, 5, pt. 2, Feb. 15, 1918, pp. 1-5, 1 fig.

Reports the three species of Brachyuran crabs secured by this expedition, one of which is described from the megalops stage as a new form, *Marestita mawsoni*.

Part of the material on which this report is based has been donated to the collections of the National Museum.

ECHINODERMS.

CLARK, AUSTIN H. Three new starfish and one new brittle-star from Chile.

Proc. Biol. Soc. Washington, 30, July 27, 1917, pp. 151-158.

Describes three new starfishes and one new ophiuran secured

CLARK, AUSTIN H.—Continued.

by the *Albatross* dredgings off the west coast of Chile. The type specimens are in the collections of the United States National Museum.

CLARK, AUSTIN H. The interrelationships of the subfamilies and genera included in the crinoid family Antedonidae.

Journ. Washington Acad. Sci., 7, No. 18, Oct. 4, 1917, pp. 504-512.

Keys to the subfamilies and genera of the family Antedonidae are given, and in the keys to the genera, the geographical and bathymetrical range of each is included.

Two new astroradiate echinoderms from the Pacific coast of Colombia and Ecuador.

Proc. Biol. Soc. Washington, 30, Oct. 23, 1917, pp. 171-174.

Describes two new echinoderms, the types of both species being in the National Museum.

A new unstalked crinoid from the Philippine Islands.

Proc. Biol. Soc. Washington, 31, May 16, 1918, pp. 37, 38.

Describes a new species of crinoid, *Prometra longipinna*, from the Albatross Philippine Expedition. The type specimen is in the National Museum.

CLARK, AUSTIN H. A new crinoid from New Zealand, and another from Tasmania.

Proc. Biol. Soc. Washington, 31, May 16, 1918, pp. 41-44.

Lists the crinoid fauna of the waters about New Zealand and Tasmania and describes two new species. The types are in the National Museum.

FISHER, WALTER K. Notes on Asteroidea.

Ann. Mag. Nat. Hist., ser. 8, 20, Aug., 1917, pp. 166-172.

Dealing with nomenclatorial questions in the family Asteroidea.

A new genus and subgenus of East Indian sea-stars.

Ann. Mag. Nat. Hist., ser. 8, 20, Aug., 1917, pp. 172, 173.

Two new forms described will be incorporated and figured in a report on the Asteroidea secured by the Albatross Philippine Expedition, 1907-1910. They are *Paranepanthia*, new genus, and *Glyphodiscus*, new subgenus. The genotype is in the National Museum.

NEMATHELMINTHES.

HADWEN, S. (See under Brayton H. Ransom.)

RANSOM, BRAYTON H., and S. HADWEN. Horse strongyles in Canada.

Journ. Amer. Vet. Med. Ass., (n. s.) 6, No. 2, May, 1918, pp. 202-214, figs. 1-16.

Record of species found during summer of 1917 with brief descriptions. *Triodontophorus tenuicollis* found associated with and a probable cause of ulcers in the colon.

VAN CLEAVE, H. J. The Acanthocephala of North American birds.

Trans. Amer. Micr. Soc., 37, No. 1, Jan., 1918, pp. 19-47, pls. 1-5.

Includes descriptions of *Corynosoma constrictum*, new species, *Plaziorhynchus formosus*, new species, *Polymorphus obtusus*, new species, types of which are in the National Museum collections. List of all known species occurring in North American birds, with illustrations, and key to genera and species.

PLATYHELMINTHES.

HALL, MAURICE C., and MEYER WIGDOR. A bothriocephalid tapeworm from the dog in North America, with notes on cestode parasites of dogs.

Journ. Amer. Vet. Med. Ass., (n. s.) 6, No. 3, June, 1918, pp. 355-362, 1 fig.

HALL, MAURICE C., and MEYER WIGDOR—Continued.

Description of *Diphyllobothrium americanum*, new species, in the National Museum collections. Notes on other species of cestodes found in dogs in North America.

COELENTERATA.

MAYER, ALFRED GOLDSBOROUGH. Report upon the Scyphomedusae collected by the United States Bureau of Fisheries Steamer "Albatross" in the Philippine Islands and Malay Archipelago.

Bull. U. S. Nat. Mus.,
No. 100, 1, pt. 3,
Dec. 22, 1917, pp.
175-233, figs. 1-24.

Presents an exhaustive report on the Scyphomedusae of the

MAYER, ALFRED GOLDSBOROUGH—Contd.

Philippine and adjacent regions, treating of 31 species, 10 of which are new to science, and including a discussion of the zoogeographic distribution of this faunal area, also reporting on the structure, physiology, habits and development of the Scyphomedusae, concluding with a systematic classification of the group.

BOTANY.

ARTHUR, J. C. Uredinales of the Andes, based on collections by Dr. and Mrs. Rose.

Botan. Gaz., 65, No. 5,
May, 1918, pp.
460-474.

BLAKE, SIDNEY F. A revision of the genus *Dimerostemma* Cass.

Contr. Gray Herb., (n. s.), No. 52, Sept. 28, 1917, pp. 8-16.

Type of a new species described is in the National Herbarium.

—— A revision of the genus *Vi- guiera*.

Contr. Gray Herb., (n. s.), No. 54, June 18, 1918, pp. 1-205, pls. 1-3.

Based partly upon material in the National Herbarium.

—— (See also under Frederick V. Coville.)

CHASE, AGNES. Axillary cleistogenes in some American grasses.

Amer. Journ. Bot., 5,
No. 5, May, 1918,
pp. 254-258, figs.
1-5.

—— (See also under A. S. Hitchcock.)

COVILLE, FREDERICK V., and SIDNEY F. BLAKE. Notes on District of Columbia Juncaceae.

Proc. Biol. Soc. Wash- ington, 31, May 16, 1918, pp. 45, 46.

Includes three new combina- tions in *Juncus* and *Juncoides*.

DE CANDOLLE, C. *Meliaceae Centrall- Americanae et Panamenses*.

DE CANDOLLE, C.—Continued.

Smithsonian Misc. Colls., 68, No. 6,
July 23, 1917, pp.
1-8.

Includes descriptions of 12 new species and varieties in *Guarea* and *Trichilia*, 7 of these being from Panama.

GREENMAN, J. M. Monograph of the North and Central American species of the genus *Senecio*, part II.

Annals Mo. Bot. Gard.,
5, No. 1, Apr. 3,
1918, pp. 37-108,
pls. 4-6.

Based partly on material in the National Herbarium.

HITCHCOCK, A. S. A botanical trip to the Hawaiian Islands.

Scientific Monthly, 5,
No. 4, Oct., 1917,
pp. 323-349; 5, No.
5, Nov., 1917, pp.
420-432.

—— British grasses.

Botan. Gaz., 65, No. 4,
Apr., 1918, pp.,
365, 366.

Review of "British grasses and their employment in Agriculture," by S. F. Armstrong.

—— Generic types with special refer- ences to the grasses of the United States.

Amer. Journ. Bot., 5,
No. 5, May, 1918,
pp. 248-253.

—— and AGNES CHASE. Grasses of the West Indies.

Contr. U. S. Nat. Herb.,
18, Pt. 7, Sept. 1,
1917, pp. 261-472.
(Erroneously dated
Aug. 18, 1917.)

HOWE, MARSHALL A. The marine algae and marine spermatophytes of the Tomas Barrera Expedition to Cuba.

Smithsonian Misc. Colls., 68, No. 11, Apr. 9, 1918, pp. 1-13, 1 fig.

MAXON, WILLIAM R. Notes on American ferns—XI.

Amer. Fern Journ., 7, No. 4, Oct.-Dec., 1917, pp. 104-106.

——— A new *Notholaena* from the southwest.

Amer. Fern Journ., 7, No. 4, Oct.-Dec., 1917, pp. 106-109.

——— Notes on western species of *Pellaea*.

Proc. Biol. Soc. Washington, 30, Dec. 1, 1917, pp. 179-184.

Includes description of *Pellaea compacta*, new species from southern California.

——— The American range of *Botrychium lanceolatum*.

Rhodora, 20, No. 229, Jan., 1918, p. 19.

——— A new hybrid *Asplenium*.

Amer. Fern Journ., 8, No. 1, Jan.-Mar., 1918, pp. 1-3.

——— A new *Anemia* from Mexico.

Journ. Washington Acad. Sci., 8, No. 7, Apr. 4, 1918, pp. 199, 200.

PENNELL, FRANCIS W. Notes on plants of the southern United States—III.

Bull. Torrey Bot. Club, 44, No. 7, July, 1917, pp. 337-362.

Based partly upon material in the National Herbarium.

PITTIER, HENRY. The Middle American species of *Lonchocarpus*.

Contr. U. S. Nat. Herb., 20, Pt. 2, Aug. 7, 1917, pp. 37-93, pls. 1-6, figs. 1-43. (Erroneously dated Aug. 3, 1917.)

——— New or noteworthy plants from Colombia and Central America—6.

Contr. U. S. Nat. Herb., 18, Pt. 6, Sept. 22, 1917, pp. 225-259,

PITTIER, HENRY—Continued.

pl. 106, figs. 98-104. (Erroneously dated Sept. 15, 1917.)

——— New or noteworthy plants from Colombia and Central America—7.

Contr. U. S. Nat. Herb., 20, Pt. 3, June 18, 1918, pp. 95-132, pl. 7, figs. 44-62.

RICKER, P. L. A synopsis of the Chinese and Formosan species of *Albizia*.

Journ. Washington Acad. Sci., 8, No. 8, Apr. 19, 1918, pp. 242-246.

Type of a new species described is in the National Herbarium.

ROCK, JOSEPH H. *Cyrtandrae* Hawaiianes, Sect. *Crotonocalyces* Hilbr.

Amer. Journ. Bot., 5, No. 5, May, 1918, pp. 259-278, pls. 18-23.

Based in part on material in the National Herbarium.

ROSE, J. N. *Pachyphytum bracteosum*.

Addisonia, 2, No. 3, Sept. 29, 1917, p. 53, pl. 67.

——— *Gymnocalycium multiflorum*.

Addisonia, 3, No. 1, Mar. 30, 1918, p. 5, pl. 83, A.

——— *Gymnocalycium mostil.*

Addisonia, 3, No. 1, Mar. 30, 1918, pp. 5, 6, pl. 83, B.

SCHNEIDER, CAMILLO. A conspectus of Mexican, West Indian, Central and South American species and varieties of *Salix*.

Botan. Gaz., 65, No. 1, Jan., 1918, pp. 1-41.

Based partly on material in the National Herbarium.

SHEERFF, EARL E. Studies in the genus *Bidens*.—IV.

Botan. Gaz., 64, No. 1, July, 1917, pp. 21-41, pls. 9, 10.

Types of 2 new species described are in the National Herbarium.

SMITH, CHARLES PIPER. Studies in the genus *Lupinus*—II. The Microcarpi, exclusive of *Lupinus densiflorus*.

Bull. Torrey Bot. Club,
45, No. 1, Jan.,
1918, pp. 1-22, figs.
1-16.

Based partly upon material in the National Herbarium.

— Studies in the genus *Lupinus*—
III. *Lupinus densiflorus*.

Bull. Torrey Bot. Club,
45, No. 5, May,
1918, pp. 167-202,
figs. 17-42.

Based partly on material in the National Herbarium.

STANDLEY, PAUL CARPENTER. The Chenopodiaceae of the North American Flora.

Bull. Torrey Bot. Club,
44, No. 9, Sept.,
1917, pp. 411-429.

— Allioniaceae.

North Amer. Flora, 21.
Pt. 3, Jan. 22,
1918, pp. 171-254.

Includes descriptions of all species of the family known to occur in North America.

— *Blepharidium*, a new genus of Rubiaceae from Guatemala.

STANDLEY, PAUL CARPENTER—Contd.

Jour. Washington Acad. Sci., 8, No. 3,
Feb. 4, 1918, pp.
58-60.

— Rusts and smuts collected in New Mexico in 1916.

Mycologia, 10, No. 1,
Jan., 1918, pp. 34-42.

— A new species of *Rondeletia* from Mexico.

Journ. Washington Acad. Sci., 8, No. 5,
Mar. 4, 1918, pp.
126, 127.

— Rydberg's flora of the Rocky Mountains.

Torreya, 18, No. 5,
May, 1918, pp. 91-94.

Review of "Flora of the Rocky Mountains and adjacent plains," by P. A. Rydberg, 1917.

VAN ESELTINE, G. P. *Selaginella funiformis*, a new species in the *S. rupestris* group.

Proc. Biol. Soc. Washington, 30, Oct. 10,
1917, pp. 161, 162.

Type specimen is in the National Herbarium.

GEOLOGY AND MINERALOGY.

ANDERSEN, OLAF. Aventurine labradorite from California.

Amer. Mineralogist, 2,
No. 7, July, 1917,
p. 91.

Describes material in the Museum mineral collection from Modoc County, Cal., considered unusual in owing its aventurine character to inclusions of metallic copper.

BEARD, R. E. (See under Thomas L. Watson.)

BROWN, GLEN V. The composition of seleniferous sulfur.

Amer. Mineralogist, 2,
No. 9, Sept., 1917,
pp. 116, 117.

Establishes by analyses of a number of specimens the appropriateness of regarding the previously called selenosulfur as a variety rather than a species, and suggests calling it *seleniferous sulfur*. The work is based partly on Museum material.

EAKLE, ARTHUR S. Minerals associated with the crystalline limestone at Crestmore, Riverside County, Cal.

Univ. California Pub.,
Bull. Dep. Geol., 10,
No. 19, Oct. 17,
1917, pp. 327-360,
pls. 21-24.

Upwards of 50 minerals from an isolated mass of granodiorite with a capping of crystalline limestone at Crestmore, Riverside County, Cal., are here described, including two new species, *crestmoreite* and *river-sideite*. Many analyses are given and a photograph of the district appended. Much of the determinative work in connection with this paper was done in the chemical laboratory in the National Museum during the winter of 1916-17, and fragments of a number of the described specimens are in the Museum's collection.

HESS, FRANK L. Tungsten minerals and deposits.

Bull. U. S. Geol. Surv.,
No. 852, 1917, pp.
1-85, pls. 1-25,
figs. 1-4.

An attempt is made to gather into this bulletin the known general facts about tungsten, the minerals in which it is found, the kinds of deposits from which these minerals have been obtained, and other information which will answer as many as possible of the questions asked the Survey, and to show by illustrations, colored and uncolored, the appearance of typical specimens of the various tungsten minerals. The purpose has been to make this paper of interest and use to the prospector and miner, and also to those who have no particular knowledge of minerals. Much of the material on which this report is based, including a number of the illustrated specimens, is the property of the Museum.

KOCH, LOUIS H. Green calcite from Glens Falls, N. Y.

Amer. Mineralogist, 2,
No. 10, Oct., 1917,
p. 121.

The author determined by analysis that the unusual green color of a specimen of calcite in the Museum's collection was probably due to a minute amount of chromium present in its composition.

— A new occurrence of ptilolite.

Amer. Mineralogist, 2,
No. 12, Dec., 1917,
pp. 143, 144.

Records the occurrence at Challis, Idaho, of the rare species ptilolite, a hydrated silicate of alumina, lime, and the alkalis, hitherto known only in minute amount from three places in Colorado.

LARSEN, ESPER S. The probable identity of uranothallite and liebigite.

Amer. Mineralogist, 2,
No. 7, July, 1917,
p. 87.

The author determines by an optical study that these two minerals are probably identical, and recommends that the name

LARSEN, ESPER S.—Continued.

uranothallite be retained since the first accurate description was published under that name, although liebigite has priority. Based partly on Museum material.

MERRILL, GEORGE P. A second meteorite find in Florida.

Amer. Journ. Sci., 44,
Jan., 1918, pp. 64,
65.

Brief description without chemical analysis of a fragment found, but time of fall unknown. Of chief interest as being the second find of meteoric stones in Florida.

— A peculiar fibrous form of opal.

Amer. Mineralogist, 3,
No. 2, Feb., 1918,
pp. 11, 12.

Describes a peculiar fibrous, almost asbestiform, opalescent siliceous replacement of the organic matter of wood.

— Tests for fluorine and tin in meteorites with notes on maskelynite and the effect of dry heat on meteoric stones.

Proc. Nat. Acad. Sci.,
4, No. 6, June,
1918, pp. 176-180,
figs. 1-5.

Gives the results of tests which seemingly show that neither fluorine nor tin are constituents of meteoric stones; that the so-called maskelynite is a feldspathic glass, and that the black color of some chondritic stones may be due to heating as contended by Meunier.

WATSON, THOMAS L., and R. E. BEARD.

The color of amethyst, rose, and blue varieties of quartz.

Proc. U. S. Nat. Mus.,
53, No. 2220, Aug.
11, 1917, pp. 553-
563.

Gives the results of experiments by the authors on the color of several varieties of quartz, and a brief summary and discussion of the work of others on the same mineral. Concludes that the amethystine colors are due to manganese oxide probably in colloidal particles of submicroscopic size; that the color of rose quartz can

WATSON, THOMAS L., and R. E. BEARD—
Continued.

not be attributed to inorganic matter, and the blue color characteristic of some of the Blue Ridge quartzes is due to the inclusions of rutile. Based partly on Museum material.

WHERRY, EDGAR T. Terminated crystals of thaumasite.

Amer. Mineralogist, 2,
No. 7, July, 1917,
p. 89.

WHERRY, EDGAR T.—Continued.

Preliminary note on some minute thaumasite crystals found at West Paterson, N. J.

— Merrilite.

Amer. Mineralogist, 2,
No. 9, Sept., 1917,
p. 119.

Proposes the name *merrillite* for a calcium phosphate noted by Dr. George P. Merrill as existing in a number of stony meteorites.

PALEONTOLOGY.

BARTSCH, PAUL. Two new species of fossil marine shells from California.

Proc. Biol. Soc. Washington, 31, June 29,
1918, pp. 79, 80.

Describes two new species, *Vitrinella thomasi* and *Aesopus idae*, from Knob Hill Cut, San Pedro, Cal.

— A new fossil pyramidellid mollusk from the west coast of America.

Proc. Biol. Soc. Washington, 31, June 29,
1918, p. 81.

Describes *Turbonilla (Pyrgolampros) amava*, new species, from San Pedro series of Dead Man's Island, Cal.

BERRY, EDWARD W. Fossil plants from Bolivia and their bearing upon the age of uplift of the eastern Andes.

Proc. U. S. Nat. Mus.,
54, No. 2229, Oct.
27, 1917, pp. 103-
164, pls. 15-18, figs.
1, 2.

Study of the fossil plants from two classic localities in Bolivia—the copper district of Corocoro and the silver and tin district of Potosi. The rather definite results regarding the age of these deposits is thought to have not only an important bearing on the time of mineralization in these regions, but to be of the greatest value in indicating the period of elevation of the Andes, which is shown to be much later and more profound than hitherto supposed. A discussion of the results of this study is followed by a description of the flora, and by an account of a new species of brachiopod by Prof. Charles Schuchert.

COOKE, CHARLES WYTHE. The stratigraphic position and faunal associates of the orbitoid foraminifera of the genus *Orthophragmina* from Georgia and Florida.

Prof. Paper U. S. Geol. Surv., 108-G, Dec.
12, 1917, pp. 109-
118, figs. 19, 20.

Furnishes information regarding the stratigraphic relations of the species of *Orthophragmina* described in the succeeding paper by J. A. Cushman, and enumerates the other organisms found associated.

CUSHMAN, JOSEPH AUGUSTINE. Orbitoid foraminifera of the genus *Orthophragmina* from the Ocala limestone of Georgia and Florida.

Prof. Paper U. S. Geol. Surv., 108-G, Dec.
12, 1917, pp. 115-
124, pls. 40-44.

Describes and figures six new species and one new variety of the genus *Orthophragmina* from the Ocala limestone of Georgia and Florida.

GILMORE, CHARLES W. The armored dinosaur.

Sol. Monthly, 6, No. 5,
May, 1918, pp.
475-477, figs. 1, 2.

Brief semipopular account of the recently mounted *Stegosaurus* skeleton in the U. S. National Museum.

JACKSON, ROBERT TRACY. Fossil echini of the Panama Canal Zone and Costa Rica.

Proc. U. S. Nat. Mus.,
53, No. 2218, Sept.
24, 1917, pp. 489-
501, pls. 62-68, figs.
1-4.

JACKSON, ROBERT TRACY—Continued.

Describes and figures nine species belonging to the genera *Olypeaster*, *Encope*, *Echinolampas*, and *Schisaster*. Six of the species are new.

KNOWLTON, F. H. A fossil flora from the Frontier formation of southwestern Wyoming.

Prof. Paper U. S. Geol. Surv., 108-F, Aug. 22, 1917, pp. 73-107, pls. 27-29.

The locality which afforded the plants described in this paper was discovered in 1843 by Capt. John C. Fremont while engaged on an exploring expedition to the Rocky Mountains. The beds now called the Frontier formation were first supposed to be of Jurassic age, but larger and better collections made in recent years have demonstrated that they are Cretaceous (Colorado) in age. This flora embraces 25 forms of which 7 are ferns, 1 an *Equisetum*, 1 a monocotyledon, and the remaining 16 dicotyledons. Evidence of insects in Frontier time is indicated by the presence of an egg-mass on one leaf and by a symmetrically looping mine in the leaf substance of another. They are believed to belong to the Microlepidoptera.

— Fossil floras of the Vermejo and Raton formations of Colorado and New Mexico.

Prof. Paper U. S. Geol. Surv., 101, 1917, pp. 223-435, pls. 30-113.

For 25 years the principal coal fields of the Raton Mesa region of Colorado and adjacent New Mexico have been regarded as referable to the Laramie formation. A recent discovery of an unconformity in the midst of this section necessitated the re-examination of all available paleontological data. It has now been ascertained that the Laramie is absent from this whole region. The beds below the unconformity (named the Vermejo formation) are Montana in age and contain flora of 108 forms, while the beds above the unconformity (the Raton formation) are Eocene in

KNOWLTON, F. H.—Continued.

age and embrace a flora of 148 species. So far as now known only four species are common to the Raton and Vermejo formations. The flora of both formations is described and illustrated in full.

LULL, RICHARD SWAN. Fossil footprints from the Grand Canyon of the Colorado.

Amer. Journ. Sci., 45, May, 1918, pp. 337-346, pls. 1-3, figs. 1-4.

Describes and figures a specimen from the National Museum collection as the paratype of *Laoporus noblet*, new species.

OSBOEN, HENRY FAIRFIELD. Equidae of the Oligocene, Miocene, and Pliocene of North America, iconographic type revision.

Memoirs Amer. Mus. Nat. Hist. (n. s.), 2, Pt. 1, June 10, 1918, pp. 1-330, pls. 1-54, figs. 1-173.

In this revision the author has redescribed and refigured most of the fossil horse material of the National Museum collection.

RATHBUN, MARY J. Description of a new species of crab from the California Pliocene.

Proc. U. S. Nat. Mus., 53, No. 2214, Aug. 15, 1917, pp. 451, 452, pl. 59.

Description of a fossil crab allied to the recent *Cancer antennarius*. The specimen was obtained from the foundation of a large building in Los Angeles.

SHUFELDT, R. W. Fossil remains of what appears to be a passerine bird from the Florissant shales of Colorado.

Proc. U. S. Nat. Mus., 53, No. 2215, Aug. 15, 1917, pp. 453-455, pls. 60, 61.

Describes and figures a poorly preserved specimen deposited in the Museum by Prof. Ira E. Cutler.

SPRINGER, FRANK. On the crinoid genus *Scyphocrinus* and its bulbous root *Camarocrinus*.

Smithsonian Inst. Pub.
No. 2440, 1917, pp.
1-74, pls. 1-9, figs.
1-19.

Monographic study of this interesting and remarkable crinoid genus, including descriptions and illustrations of 8 species, 5 of which are new. The distribution and morphology of the genus are described in detail, and its relation to the bulbous organism hitherto known as *Camarocrinus* is discussed fully. The memoir also includes a summary of former work on the subject and a history of the discovery and detailed description of the magnificent specimen now on exhibition in the National Museum, upon which most of the researches regarding the morphology of the genus were made.

WALCOTT, CHARLES D. Cambrian geology and paleontology, IV, No. 3, Fauna of the Mount Whyte formation.

Smithsonian Misc. Colls., 67, No. 3,
Sept. 26, 1917, pp.
61-114, pls. 8-13.

Descriptions of 30 species are given, including 2 new genera and 29 new species. The fauna, which is Lower Cambrian, includes cystids, trilobites, brach-

WALCOTT, CHARLES D.—Continued.

lopoidea, and a phyllopod. The new genera are *Gogia*, a cystid, and *Shafferia*, a phyllopod. The new species belong to the genera *Archaeocyathus*, *Gogia*, *Micromitra*, *Obolus*, *Acrothele*, *Wimanelia*, *Shafferia*, *Agraulos*, *Olenopsis*, *Ptychoparia*, *Oreptcephalus*, and *Dorypyge*. The purpose of the investigation was to establish the horizon of the Mount Whyte formation, which had been assigned to the Middle Cambrian by Burling in 1914 after Walcott had in 1908 referred it to the Lower Cambrian. The new fauna described by Walcott fully supports his claim, besides adding interesting new sections, which will be published with detailed descriptions later on.

WILLIAMS, HENRY SHALER. Nuculites from the Silurian formations of Washington County, Me.

Proc. U. S. Nat. Mus.,
54, No. 2225, Oct.
20, 1917, pp. 27-58,
pls. 11, 12, 1 fig.

Synopses of 12 former articles are followed by a history of the pelecypod genus *Nuculites* and descriptions and illustrations of 20 species from the Silurian of Maine, 19 of which are new. The article concludes with remarks on the interpretation of fossils with special reference to species of *Nuculites*.

MINERAL TECHNOLOGY.

GILBERT, CHESTER G. Coal products: an object lesson in resource administration.

Bull. U. S. Nat. Mus.,
No. 102, Pt. 1, Nov
17, 1917, pp. 1-6,
pls. 1-11.

The chemical industries of the United States are notoriously weak; in fact, up to the outbreak of the present war there were relatively few chemical industries, yet no field of industrial activity is more essential to the country. The most important of all the chemical industries is that represented in the manufacture of coal products. The purpose of this paper is to bring out the reason for

GILBERT, CHESTER G.—Continued.

the lack of the chemical industries in general and the coal products one in particular, with a view to determining where the fault lies and what should be done to correct it.

— and JOSEPH E. POGUE. Coal: the resource and its full utilization.

Bull. U. S. Nat. Mus.,
No. 102, Pt. 4, Feb.
21, 1918, pp. 1-26.

The cost of fuel in the home is roughly four or five times the first cost at the mine. In other words, the cost to the consumer is out of all proportion to the price at the producing end. This discrepancy means an extravagant price for fuel in the

GILBERT, CHESTER G., and JOSEPH E.
POGUE—Continued.

home and is due to wastefulness of economic procedure all the way down the line between production and consumption. It is the purpose of this paper to analyze the situation and point out economic changes needed to better conditions.

POGUE, JOSEPH E. Fertilizers: an interpretation of the situation in the United States.

Bull. U. S. Nat. Mus.,
No. 102, Pt. 2, Oct.
10, 1917, pp. 1-22,
1 pl.

The fertilizer resources of the United States are viewed in the light of their importance under war-time conditions, when, on the one hand, an increasing supply is needed for the production of an added output of foodstuffs, and, on the other, the foreign sources of supply from which much of our mineral fertilizer is drawn have been cut off or endangered. The rather remarkable circumstances that this country has been dependent upon Chile for nitrogen, upon Germany for potash, and upon Spain for pyrite used in the manufacture of sulphuric acid, is pointed out in respect to developing national independence as regards the fundamental materials. The paper is accompanied by a chart which shows in one expanse the whole fertilizer situation, with particular regard to the effects of the war

POGUE, JOSEPH E.—Continued.

upon it. The purpose of the paper is to emphasize to the general public as well as to those more directly interested in fertilizers the importance of dealing with this matter as a broad and fundamental problem affecting the basic matter of food supply.

— Sulphur: an example of industrial independence.

Bull. U. S. Nat. Mus.,
No. 102, Pt. 3, Nov.
1, 1917, pp. 1-10,
pls. 1-3, 1 fig.

Two sulphur deposits near the Gulf coast in Louisiana and Texas, worked by an ingenious and efficient mechanical process, not only are supplying practically all of the crude sulphur in this country, but their development has shifted the world's largest sulphur industry from Sicily to the United States. The geological occurrence and method of working the Gulf deposits by means of the Frasch process are described in nontechnical language. The bearing of these deposits on the sulphuric-acid situation is discussed and the need pointed out for a determination of the sulphur resources present in the whole Gulf region, with a view to defining a proper adjustment between the needs of the sulphur industry and the sulphuric acid industry.

— (See also under Chester G. Gilbert.)



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